

AVANZA

THE TRANSFORMATIONAL POWER OF AN EDUCATION



V1.0

DO NOT GO WHERE THE
PATH MAY LEAD, GO
INSTEAD WHERE THERE
IS NO PATH AND LEAVE
A TRAIL.

—
RALPH WALDO EMMERSON



FOREWORD

Humanity is connected by experiences: successes, failures, laughter, sorrow, compassion, love, and challenges. This collection of true stories focuses on Mexican-Americans who may have encountered seemingly insurmountable circumstances growing up but dared to dream and overcome these obstacles. The people in these stories all come from blue collar backgrounds, and while it may have seemed that another life wasn't possible when they were younger, they all landed at the Massachusetts Institute of Technology (MIT), eventually becoming doctors, engineers, entrepreneurs, scientists, and more.

In this book, one will see the power of an education, view a cross-section of the underserved population as seen through the eyes of these successful Mexican-Americans, and realize that no matter the group, many of us share common experiences. The key point of this book is that if one is prepared to work hard, imagine a better future, and go after it with vision, creativity, and perseverance, then wonderful things become possible.

With this, we leave you to explore these stories and imagine what you can be.

Enjoy!

Avanza Network - www.avanzanetwork.org

RENE GONZALEZ



TODAY

I have been fortunate to have worked in several successful startup companies over the years. Some have been my own while others I joined early stage. One of the companies invented a whole new category in the payments space and went public in 2008. Another helped cities automate cost accounting and helped me pay for college. Each time, I've seen it as an opportunity to roll up my sleeves and learn, both from successes and from failures. Although I started my career after college working at Fortune 500 companies, once I got a taste of the startup world, I've not looked back.

This appetite to create something new and challenge the status quo is something I learned while studying at MIT, which encouraged entrepreneurship, problem solving, and collaboration. In startups, you get the opportunity to wear multiple hats and continually are challenged to solve problems and find innovative new solutions. It certainly keeps things exciting!

Besides working in the payment and loyalty space, my wife and I have ventured into the ranching, real estate, and restaurant industries. We are also working on new startups in fashion and global remittance.

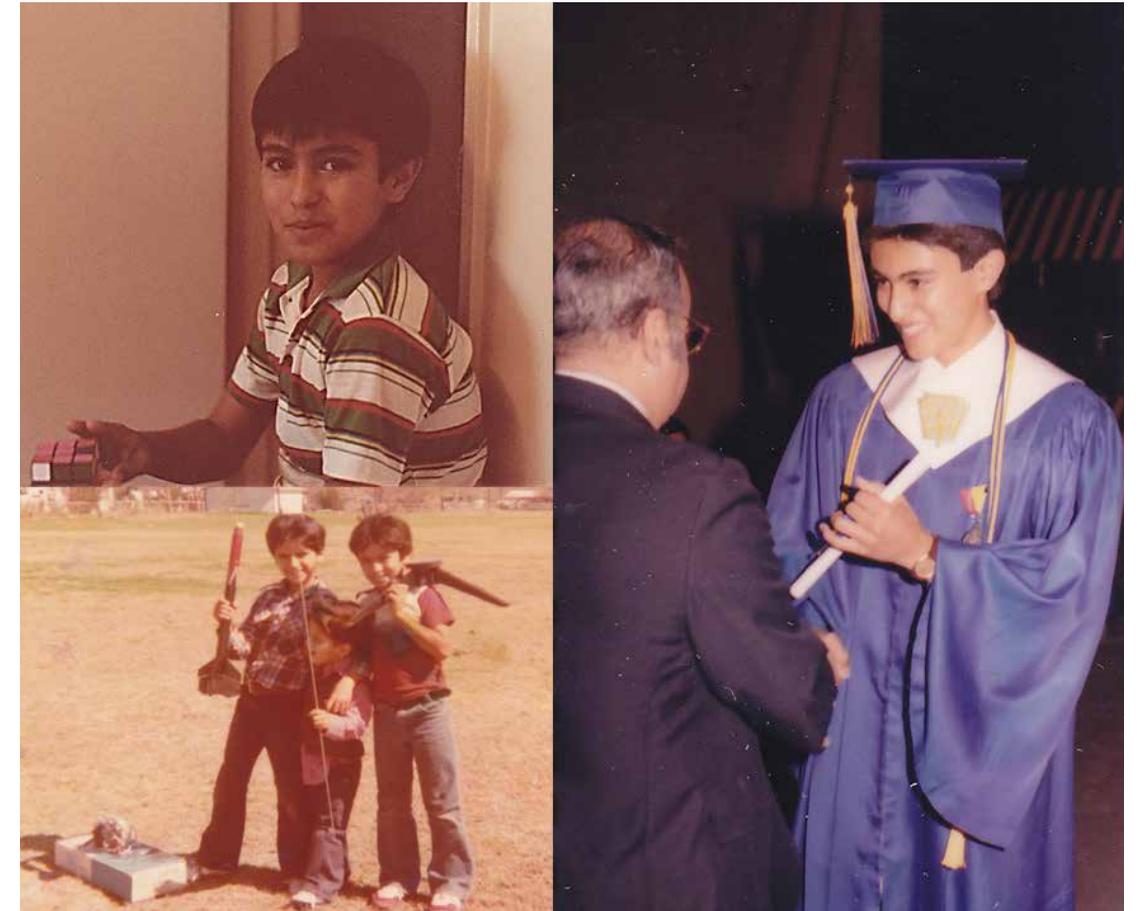
Imagine and make it so!

THE PERSONAL STORY AND PATH TO COLLEGE

As a young boy, I inherited an old microscope and chemistry set from my oldest brother. This, plus some wonderful teachers in elementary and middle school, initiated my interest in math and science.

My biggest inspiration, though, came from my family. My oldest brother, Robert, lit the path forward by being the first to attend college in our family. When he left for Boston to attend MIT, I thought he was leaving for another planet, never to be seen again. But he would call and visit during holidays. Hearing his stories of college drove me to work harder, wanting to follow in his footsteps. I aimed high and worked hard and eventually was also accepted to MIT. Facilitating this, of course, were my parents, both of whom worked hard to provide whatever support my brothers and I needed to get through high school successfully and stay out of trouble.

Along the way, high school teachers and counselors formed a support network that propelled many of us into higher education. My high school math teacher, Mr. Moreida, challenged us and prepared us for college. My science teachers made learning hands-on, even though our high school was resource-poor.





FAMILY

Leaving my home in Corpus Christi, Texas was difficult for me. We are a close-knit family and I had never been anywhere without my parents. But my family was also extremely supportive and loving. They always wanted what was best for me. Both of my parents instilled in me the importance of working hard and of obtaining a strong education. My father worked at a food production plant for over thirty years and after retiring from that job, he studied accounting and became a bookkeeper and a tax preparer. My mother was the glue that held our household together. Besides managing the house, she also worked as a janitor at night to help us meet our needs.

I remember going at night to help my mother clean offices. This was difficult work and we tried to complete it as quickly as possible so we could get back home and be with the rest of the family. My time helping my mother enabled me to appreciate the sacrifices she made for me and the family but also continues to be a driving force in my appreciation those that work hard every day in all sorts of jobs to support their families. It's also helped shape my career focus as I have worked to create products and services that improve the lives of those which are traditionally under-served.

Even though we were poor, we were always happy and had everything we needed. And somehow we always found a way to make our annual trip down to a small town in Guanajuato, Mexico to visit my mother's family. It was always important for my parents to show us where we came from.

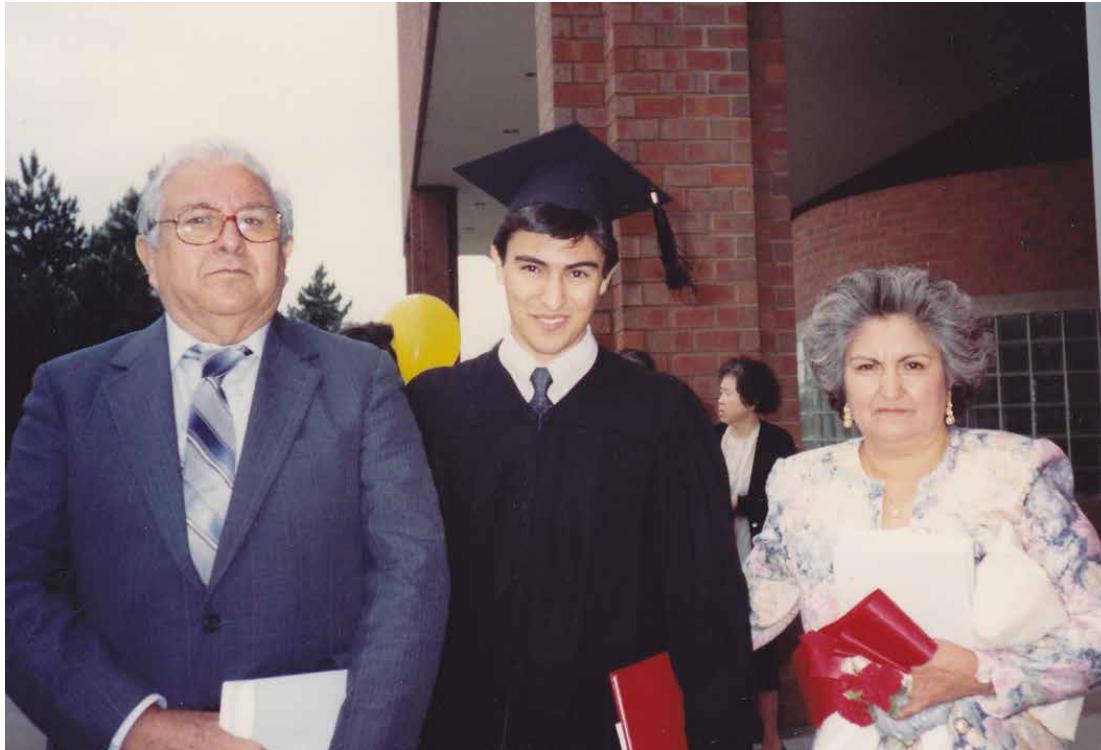
MY COLLEGE EXPERIENCE

The first year in college was extremely difficult for me. It was the first time I had been away from home. I was also extremely shy so obtaining a support network of friends was not something simply achieved. I was fortunate to have chosen a dorm with a living group (Spanish House) that quickly gave me a group of students that supported each other. Also, the Mexican-American group on campus, LUChA, offered me support, guidance, and friendship. Here, I made lifelong friends, many of which I am still in contact with, and in some cases I may have worked with on a professional basis as I built my career.

As a freshman at MIT, we were under a pass/fail system. This also bought me some room for error as I learned to acclimate myself to college life. After a few months, several all-nighters, and my first horrible exam experiences, I began to come up for air. By the end of the first semester, I was beginning to get accustomed to life away from home and my mother's cooking.

I started with the desire to study electrical engineering, switched to computer science, and finally settled with a major in management with a concentration in information systems and a minor in Spanish. After graduating, I worked as a consultant for a year before returning to MIT to get my Master's degree in management with a focus on financial engineering.

Over the years, I was able to develop friendships that to this day continue stronger than ever. I met a wonderful girl my sophomore year, not knowing she would become my wife. I learned to cook. I was able to play a variety of sports, including soccer and hockey. I met people from all over the world. My college years were a spectacular time in my life and truly shaped the rest of my life's path.





EDUCATION IS
THE GREATEST
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ALL YOU NEED
TO UNWRAP IT
IS *GANAS*.

REFLECTION AND MESSAGE

Whenever I have the opportunity to speak to young students, my message focuses on four key points. First, I cannot stress enough the importance of a college education. Whether that begins in a community college or starts at an Ivy League school, aim high and work hard. An education is something that cannot be taken away from you and is an ever-evolving tool to help you throughout your life.

Education is the greatest gift you can give to yourself, and all you need to unwrap it is *GANAS*.

Second, living in a socioeconomically depressed or under-served community may make it more difficult to focus and excel in education, but getting through it will only make you stronger and more resilient in the end. Find the right resources, embrace the positive forces in your community, and avoid the negative.

Next, I like to encourage young students to be entrepreneurial and follow their dreams. It's a big world with plenty of opportunities so time to go after them and learn along the way!

Finally, I stress to them the importance of not forgetting where they came from. It's critical that those of us who make it out of some of these tough neighborhoods go back and talk to and inspire the next generation of youth. Together we are stronger.

CECILIA
HENRIQUEZ
FERNANDEZ

*UNA EDUCACION NUNCA
TE LA PUEDEN QUITAR.*

—

NO ONE CAN TAKE
AWAY YOUR EDUCATION

TODAY

I graduated from MIT in 2005 with a Bachelor of Science in Mathematics, from UCLA in 2008 with a Master of Arts in Education, and from UCLA in 2016 with a Ph.D. in education. I chose to focus my life on advancing math education because I am a firm believer in education as a venue for improving the quality of life for low-income families. However, life experiences have taught me that not everyone has equitable access to an education. For this reason, I have chosen to study how people learn (specifically how people learn mathematics) in order to make public school education more equitable and accessible for low-income communities. I have applied what I have learned through research and experience by helping to provide free extra-curricular programming to students of color living in low-income communities.

PERSONAL STORY AND PATH TO COLLEGE

I grew up in Fontana, CA in the 1990s. Fontana at the time was a largely immigrant hub, where many families arrived from Mexico and other Latin American Countries. It was mostly low to middle-income class families. It is very different from the community in which I live now. While I still live in a diverse community with immigrants, most of the immigrants are from Europe or Asia, they are college educated, and the community I live in is more well-to-do. I am able to live in this community thanks to the education my husband and I have procured for ourselves. There are many things I miss from being in a community like the one I grew up in, but I am also very comfortable in my new community. While I myself am not an immigrant, I can relate to many of the families who live where I live because I am the daughter of immigrants.

I had mixed feelings about school as a child. School was easy for me, so I never really wanted to go because I was bored. Thankfully, my mom would let me skip school as long as I maintained good grades and promised to make up the work that I missed on my own time. At the same time, my parents drilled in me that an education would provide a good livelihood for me. They also reminded me that not everyone had access to an education so that it was important to take advantage of that opportunity in this country. They encouraged me to become educated so that I would never need

to depend on anyone else. There is a dicho, a saying, my abuelos and parents would say, and that was that “una educación nunca te la pueden quitar” - “no one can take your education away.” So because school was easy for me (especially math and science) and because an education was such a valuable thing to have, it was a no-brainer for me to go to college.

While school was easy for me, at the same time, I found myself fighting stereotypes all of the time. I had to pretend I didn't speak Spanish so that I would not be put in classes that were not appropriate for me, and I had to advocate for myself to take the science and math classes I wanted (I was the only sophomore taking physics). I never really felt like I could connect with all of my peers in my classes. In addition, I was never labeled an “advanced” student (despite being ranked #1 out of my graduating class), so when opportunities came up for the GATE (Gifted and Talented) students, such as free SAT prep classes, I was never made aware of these opportunities. As a result, I was constantly having to advocate for myself and always felt uninformed as I blindly made myself aware of what I was supposed to do to go to college.

“NO, PAPI, YOU DID
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WORLD.”

FAMILY

My parents are both immigrants from Mexico. They were both brought to the United States as teenagers in different ways. My mother was undocumented and lived in hiding in Los Angeles, CA upon her arrival because they were afraid of “la migra.” My father was documented, and found himself living in a small one-bedroom apartment with six brothers and sisters in Los Angeles when he first arrived. My father started working at the age of six in Mexico, and his arrival to the U.S. was not much different. While he graduated high school and went to trade school to study carpentry, like my grandfather, his job as the eldest son was always to help support the family. A college education was not an option for him.

My mother, on the other hand, had been encouraged to become educated and dreamed of being a doctor. After two years of hiding, she was finally enrolled in high school. She didn’t speak any English, but because she was good at math (she had a private school education in Mexico), they graduated her from high school in two years and she went to college. She had to pay her way through college, as she did not qualify for financial aide, and despite not speaking English and being undocumented, she was able to obtain a Bachelors of Science in Biochemistry from California State University, Los Angeles.

My mom was never able to enter medical school because of her status (at the time) and lack of English. On top of that, life happened: she met my father and they married and had me. My father became a carpenter but was not able to maintain that profession, and spent the rest of his career working different types of maintenance and security jobs. Unfortunately, this was not enough income for a family of five, so my mother went back to school to get a teaching credential and become a high school teacher. She wanted to help other immigrant children have the opportunities

she was not able to have. She also officially became a U.S. citizen (along with my grandparents) the day I turned thirteen.

As I mentioned earlier, my parents always supported my pursuit of an education. However, my parents were not prepared for me to travel across the country to go to school. After I made my decision to go to MIT, my father asked me, "What did I do wrong? Why are you leaving us?"

My response to him was, "No, papi, You did everything right. This is what I'm supposed to do, and going to MIT, one of the best universities in the world, is going to give me incredible opportunities to move up in the world."

He didn't really respond to that, but I imagine my mother convinced him that I was doing the right thing. As for my mother, because she worked at the high school I attended, and news got around that I had gotten accepted to MIT (I was the first and only student accepted to MIT in over a decade) she was constantly hearing what a great opportunity this was for me. They did let me go, and I travelled cross country by myself two weeks after my high school graduation. We did not have the funds for one of my parents to go with me. In fact, my parents would not be able to visit me at MIT until five years later, for my graduation.

While I was at MIT, my parents supported me in a variety of ways. They would always send me care boxes and paid for my tickets to go home (I went home twice a year). They also were available often by phone, when I would call and tell them about my life at MIT. Later on, when I would come home to visit, my dad would brag to everyone, even people he didn't know, about his daughter being at MIT.

COLLEGE EXPERIENCE

Something that always surprises people is that MIT was not my first choice. I wanted to stay in California and attend Caltech, but that was not to be. Unfortunately, I did not have much help in developing my list of schools to apply to. I made a list of a few schools knowing that: (a) I wanted to leave my hometown, (b) I wanted to study Mathematics (simply because I was good at it and did not know about engineering), and (c) I wanted to go to a top university. I only applied to MIT because I was competitive, and a fellow student said he was applying to MIT. Everyone always talked about how smart he was, and I thought to myself, "if he can go to MIT, then I can go to MIT."

Looking back, my list really did not make the most sense, but I did build into it the opportunity to attend schools that would open doors for me. What helped me decide to attend MIT was visiting the campus. I met the most amazing Latinas/os that I am still friends with to this day, and who supported me through and through. I was inspired by the people I met that one weekend, and I pretty much made my decision that weekend to go to MIT.

I chose to study mathematics because I was good at it, and because I didn't know what engineering was. In retrospect, mechanical engineering would have been a good pick for me, but I didn't figure that out until later on in life. Fortunately, studying mathematics gives you fantastic analytical skills

that pretty much lets you do whatever you want later in life, which was why moving into the world of social science research was so easy for me.

MIT is a very expensive private school, but luckily they fund students based on need, meaning that if your family cannot afford it, they have funding that will help you attend. Most of my funding was through school scholarships, but 10% was through student loans. My parents also took out a few loans, which I was able to pay off afterwards.

Being away from family was really hard, and classes were hard, especially because I felt I was not as prepared to go to college as some of my peers. It didn't help that I occasionally got the message that I did not belong. In addition, I was diagnosed with an immunological disease my freshman year that left me temporarily physically handicapped. College life was very very hard, but it was the support of my family and friends that helped me to get through.

I still remember the day I boarded the plane to Cambridge. Back then, people were allowed to go to the gate, even if they weren't flying. My family could not fly with me, but they walked me to the gate, and as I boarded the plane, I turned to wave at them. I remember my six-month old sister waving at me, and as I turned around and ran in, I burst into tears. I cried the whole way from California to Boston. The man sitting next to me offered to pray with me as we flew cross country, and that helped calm my nerves a bit.

WHILE SCHOOL
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CELIA E.
MACIAS GUPTA

TODAY

I have a B.S. in Materials Science and Engineering from the Massachusetts Institute of Technology (2004) and a Ph.D. in Biomedical Engineering from the University of Texas Health Science Center and the University of Texas at San Antonio (2013).

I'm currently a Senior Scientist at Johnson & Johnson, DePuy Synthes in Joint Reconstruction Front End Research, where I'm the manager of the polymer research laboratory focused on polymers used worldwide for hip, knee, and shoulder implants and surgical instrumentation. Previously, I worked internationally in Singapore at the Institute of Bioengineering and Nanotechnology (smart polymers for cancer treatment) and in the U.S. at the Massachusetts General Hospital (polymers for cartilage replacement).





THE PERSONAL STORY AND PATH TO COLLEGE

I was born in Laredo, a Texas border town. I'm the youngest (by ten years) of four siblings. After my dad passed away and my siblings got married, my mom and I lived alone. Our house, which was in a reasonably good neighborhood, was broken into more times than I cared to count. One day, my family decided it was too dangerous to continue living there and we moved into my brother's living room. My mom and I would wake up at four a.m. and she would drop me off at my aunt's house so she could walk me to school and my mom headed off to work at a fast food restaurant. Interestingly enough, I now wake up at four a.m. every day to drive to work because of a long commute and a time zone difference. The biggest transformation is that I head to work to a career that I love in a company that values me as an employee.

When I was a kid, I liked school but I would often get bored. When my mom would meet my teachers she often heard, "She's a great student, but she talks during class and distracts others." I was never challenged and I sometimes asked my teachers to challenge me academically, which sometimes got me in trouble. Looking back, I was lucky to have met some amazing teachers that were able to recognize this behavior as curiosity and a desire to learn instead of labeling me as a trouble maker.

FAMILY

Both of my parents were born in Mexico. My dad was a carpenter and he died when I was six. My mom was a stay-at-home mom until my dad passed. At that time, she had not worked for about twenty years and suddenly had to find a job to provide for four children. She started working the graveyard shift at a factory and later quit that job and worked in a fast food restaurant. She's probably the smartest person in my family but she's scared to fail. She has been offered opportunities at work to have more managerial responsibilities, yet she has always turned the offers down.

Both of my parents wanted their kids to have an education, we were always told that school was our job. After my dad died, my mom would tell me that I needed to get an education so that I would never have to be in her situation. She wasn't kidding around – if I ever got a 99, my mom would say, that's ok and ask me how I was going to make sure that I got a 100 next time. When I joined academic competitions, if I came in any place other than first, she would tell me that she was proud of me and that next time I should go for first.

My entire family always told me that school comes first. I never thought of college as an option, it was a given. I had no idea how we would pay for it, but I had to go and my family felt the same. The big problem came when I decided to go to college out of town. Up until then, the assumption was



that I would go local or at least in-state. Instead, I wanted to go to MIT. My mom said no and so began months of heated arguments. She always wanted me to strive for the best, but she didn't want me to go to the best engineering school because she was too scared to let me go. My grandma, my siblings, and my teachers tried to convince her to change her mind and that would make her even angrier. Eventually, she realized this was my dream and that I was ready and that this is what she had been preparing me for the last seventeen years, so my entire family (mom, grandparents, three siblings plus three siblings-in-law, and twelve nieces and nephews) came to the Laredo International Airport to see me off to Boston.

The first time my family came to see me in college was four years later for my graduation. I showed them around campus and the lab where I did research and they stayed in the dorms. We went to downtown Boston and had the best time. On graduation day, they cheered at the top of their lungs and we went back to the dorms afterward to have a nice family dinner. The next day, they went back to Texas and I moved to Singapore.

I don't think my mom had ever heard about MIT before I mentioned it. This made it harder to convey to her why I wanted to go there. She couldn't see why I had to go so far away when I could study engineering in Texas. Now she wears her MIT Mom shirts with pride and when MIT comes up on the news or conversation she lets everyone know that her daughter went there.

MY ENTIRE FAMILY
ALWAYS TOLD ME THAT
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COMMUNITY

I didn't decide to go to college. I never thought I had the option of not going. Even though I was first generation, the expectation was that I must get an education and anything short of a four-year degree was out of the question.

When I was a freshman in high school, I was placed in Algebra I. The teacher knew the UIL Number Sense coach (Ms. Becky Reyes) and sent me to her room. I took a practice test and she told me to go to the registrar's office to get placed in a different class. I was then mistakenly switched to a slower paced version of Algebra I that lasted two semesters. My teacher (Mr. Kamel Shrek) knew I didn't belong there after the first quiz. Mr. Shrek and Ms. Reyes made sure that I was placed in Honors Algebra II, against the registrar's wishes. After that, I joined UIL and never looked back. I still keep in touch with Ms. Reyes and Mr. Shrek, the two teachers who saw something in me that even I couldn't see and made sure that I was on the path to success.

I was ridiculously under-prepared for MIT. I took college courses while I was in high school but they were too easy. I was the unofficial tutor for my classmates and didn't put much effort into getting A's in high school or at the local college. Because of this, I never learned how to study. I wish I had learned good study habits and time management in high school instead of as a college freshman.



MY COLLEGE EXPERIENCE

I wanted to study engineering and I knew MIT was the best engineering school so I was determined to go there. Once I received the acceptance letter, I didn't have to think about it, I started packing my bags and looking for flights to Boston.

When I was a kid, I read an article about a doctor who had an M.D. and a Ph.D. who was working to create the first artificial heart. I was mesmerized and decided I wanted to do that! My goal was to go to MIT and study chemical engineering because I thought that was the best major for me to learn about materials used in medicine. When it came time to declare a major, I wasn't excited about the courses I would take as a chemical engineering major and suddenly, I felt lost. I didn't know what to study. I grabbed a course catalog (they were printed on paper back then) and read every single course description for the required classes for every engineering and science major. When I came across Course III Materials Science and Engineering, I was hooked. I wanted to take every requirement and every elective, even the graduate level courses. I then read up on the research being done in the department and I couldn't wait to start. And so began my love affair with materials science.

I KNEW MIT WAS THE
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THERE.

Every time a new semester started, I had to answer the same question. How am I going to pay for this? In the end, it was a combination of sources. None of them were big enough to make a big impact in the amount needed, but all combined were enough to get me through. I got federal financial aid, federal loans, federal grants, local scholarships, MIT financial aid, MIT scholarships, winnings from academic competitions, and I also held three jobs at a time: 1) day job doing lab research, 2) night job as a barista, and 3) weekend job as a receptionist.

The hardest part of college was the Impostor Syndrome. I felt like I belonged there and I fit in with the school's mentality but also felt like an outsider and that any moment they would realize they sent the acceptance letter by mistake and I would be asked not to come back. This made me want to work even harder to try to keep up with the people who did deserve to be there. During my sophomore year, my grandma, who was like my second mom, was killed. I went home and didn't want to come back. My mom, who had reluctantly let me go to MIT in the first place, told me that I had no choice, I had to get on that plane and go back and finish and make my grandma proud. It took some time to get back to normal, but with the help of my family in Laredo and my new family in Boston, I was able to get back on track.

I was lucky enough to have three support groups at MIT. First, the friends I made in LUCHA and SHPE who looked like me and grew up with similar backgrounds. Second, my dorm friends, mostly international students from Asia. We were a tight-knit group, had holiday dinners and birthday parties and overall just made the dorm feel like a second home. Third, the grad students in my research group who adopted me as one of their own and made me feel like a significant contributor who belonged on their team.



REFLECTION AND MESSAGE

The hardest thing for me as a student was asking for help. Most of my classmates had a network of people they tapped for help both academically and for career advice and I was determined to do it on my own. I was stubborn and naïve and if I could have gotten my younger self to see that, it would've made my life so much easier.

Here are 3 things I would advise future scientists to do:

1) Be reliable, efficient, and indispensable. When you're starting out, know that it is a privilege to have a job because when you're fresh out of school you're probably not contributing much right away and you're still learning. To get a good foundation, be the first to be there and the last to leave and be happy to be there. Offer to help your boss and follow through with your promises. Soon, they will wonder what they ever did without you.

2) Network. Meet people in different fields, talk to them about their interests and share yours. Foster these connections over the years.



BE RELIABLE,
EFFICIENT, AND
INDISPENSABLE.

3) Be your own advocate. It would be great if career advancement just happened based on hard work, but no company is an ideal meritocracy. You have to put in the hard work AND make sure others notice it. Often, hard working employees are overlooked because they aren't willing to ask for a raise or promotion. Ask. If they say no, ask why, then take those answers and make the necessary changes, then ask again.

Life is pretty fantastic right now. I'm married to Amit Gupta, a man who not only appreciates my career goals but also encourages me to pursue bigger dreams. We have a gorgeous and energetic baby, Virat, who enjoys it when I read scientific articles aloud to him. I have my dream job in a company that values their employees and promotes work-life balance. Career-wise, I'd like to continue to grow in the medical devices field and my ultimate goal is to be a VP of R&D at a major medical devices company. Also, I enjoy mentoring the future generations of scientists and engineers and I plan to continue doing this in the future.

When I retire, a few decades from now, I plan to become a science teacher. Most importantly, I want my son to grow up in a family where he is loved and respected and he sees both his parents (one an immigrant and the other one a first generation American) achieve their goals through hard work and dedication. I want to instill in him good work ethics and teach him to respect others and treat everyone with equality.

JENNIFER
ELIZONDO



TODAY

I graduated from MIT in 1999 with a major in biology and minor in psychology. I proceeded with molecular biology research at Los Alamos National Laboratory and pursued a medical degree at Wake Forest University School of Medicine in North Carolina. I completed my training in Family Medicine at Sparrow Hospital in Lansing, Michigan. The three professional successes I am most proud of are:

1. Graduating from MIT.
2. Graduating from medical school.
3. Traveling as a Missionary Doctor around the world.

PERSONAL STORY AND PATH TO COLLEGE

I grew up in one of the most crime-plagued housing projects of East Los Angeles. I am the second child of seven, born to immigrant Mexican parents. We grew up with blaring bullets shot purposely and senselessly, the shouts of women abused, and the cries of mothers for their murdered children, where young boys sought family and identity in the streets. The floor was often our seating place on holidays in attempts for protection. Young girls were pregnant before they were women, and education was non-desirous by the populace of my community.

Now, almost three decades later, I find myself living not very far from the community I grew up in. My parents still live there, and though the intensity and frequency of the violence have diminished, it still exists. A few weeks ago I heard about a ten-year-old girl who was shot in the head by a lost bullet. And a few months ago, there was a man killing women with a hammer.

Until only six months ago, my father was among the living in our community. But lung cancer which he developed from exposure to pesticides as he worked the migrant fields, the pollution and chemicals in his line of work, took him from us at still a young age.

I write now, facing my backyard. The Guayaba tree flutters in the cool breeze, its branches losing leaves from the hot sun and the drought that threatens our vegetation in southern California. I am surrounded by pomegranate, lemon, pear, almond, avocado, and apple trees. Bay leaves, basil, red pepper, aloe, cilantro, tomatoes, and lavender - they grow in the earth that surrounds my home.

I am a firm believer in planting what will give fruit. I am not fond of planting things that only

take space. As human beings, we have to do more than exist, more than take up space; we must take action and produce fruit. Every day is a fight to survive and we are blessed with a chance to enjoy life's beauty. My neighborhood is fairly quiet and much safer than the one I grew up in. I am a homeowner with a swimming pool, which I unfortunately rarely use. I enjoy staying in to read, study, garden, and write.

I have always harbored a passion for learning. Becoming the best at everything I did was of utmost importance to me. I was fiercely competitive. When I was about seven years old, I watched a biographical movie on Nadia Comaneci, who was the first gymnast to earn a perfect ten in the Olympics. This sparked in me an insatiable desire for gymnastics, the martial arts and athletics. In my quest to excel at these disciplines, I also became involved in piano, tap dance, ballet, jazz, and judo. Thus began my elementary education in the arts, while pursuing mathematics and the sciences in school.

Unfortunately, my writing and reading (because English was my second language), were not my strengths and I chose to ignore them as worthwhile subjects. It was later in my life (when I was about twenty-seven years old) that I developed an interest in literature and history and wished I had started reading at a younger age. This is something I make sure to enforce to the young kids, and even to the adults, I meet: read, read, read, read!

Reading is power. It develops communication abilities in writing and speaking that are paramount in adulthood, in our careers. It can determine whether you have a supervisory/leadership position e.g. CEO, or if you are just one of the peons in hard labor. Even if you are a brilliant scientist, you might be locked up in your little lab working, working, working, while someone more charismatic

and versatile in speech and communication is getting rich with your brain. So I make it a point to read thirty minutes to one hour every day from a "classic," usually during my lunch hour at work. My goal is to read one classic a month. I do not like to read books that are not well written for fear they will affect my writing or speaking.

A book I discovered eleven years ago was what got me into reading the classics. It is entitled *The Well-Educated Mind: A Guide to the Classical Education You Never Had* by Susan Wise Bauer. I have been reading from this list of books ever since. Currently, I am reading Leo Tolstoy's *Anna Karenina*. It is 853 pages long; today I am on page 605. The classics can get boring at times, but they are like medicine - it may not taste good, but it's good for you. Or like working out in the gym - it may get tiring, repetitive, and time-consuming, but it is good for you. Reading works out your brain, like building brain muscle, and I am all for brain muscle!

Something else I have learned over the years is to always look things up. That's right. If you come across anything, and I mean ANYTHING, that you don't understand or know, look it up! Don't wait for someone to spoon-feed you the answer, LOOK IT UP YOURSELF. There is a learning that takes place in looking things up. It is a very healthy and powerful habit to have. You learn independence, develop initiative and curiosity. I have often found when looking up one subject, I come across several others that send me on a journey of new discoveries and trips to the library. I have read books on economics/investments, Christianity, spirituality, the Holocaust, Judaism, the lives of Muslim women, cookbooks for dishes around the world, dealing with difficult people, building healthy relationships, maximizing singlehood, and more. It has been very satisfying and exciting learning.



FAMILY

My parents had miserable childhoods. They knew what it was like to feel hunger and thirst, to lack a loving parent. My dad was the son to an alcoholic father and grew up on the streets, developing a small business at only age nine or ten selling peanuts. When he married my mother, he worked as a migrant campesino in the fields of California, bathed in pesticides by planes designed for this purpose and later as a janitor and security guard.

He worked to provide for all of us, never earning more than the minimum wage. He made it a point to drive us to school and pick us up, he took us to our karate, piano, and gymnastics classes and to our competitions even in San Diego. My dad was completely dedicated to his children. During his last weeks of life, he said he was the richest man in the world, because of his children. He said, "In the end, it doesn't matter how much money you have, but your family, your children, they are the true treasure." My father taught me to love God. I am eternally grateful to my dad, and he is greatly missed.

My mother also came from a large family; with a single mother, they were often homeless and went hungry. As the oldest, and still a child, my mother had to care for the younger ones while seeking work, ironing clothes, making dolls, washing clothes, and trying to attend school. She recounted



often fainting at school from starvation and malnutrition and having to walk miles to school because there was no money for a bus ticket.

When I was young, I was a tomboy. I much preferred playing sports than sweeping and mopping. It was a constant argument with my mother who expected I learn to keep a home instead of punching boys or throwing balls. However, I loved athletics and had to oppose my mother many times to live my dreams. In high school, I played varsity volleyball, softball, tennis, and soccer. I was often the captain and MVP. In general, my parents were always there for me. At every school event, in every competition, there was fresh fruit juice and fruits with lemon and chili, my dad screaming from the bleachers coaching me, my mother and siblings watching and giving me drink. Those are memories that I will cherish until my last breath in this world.

It was the struggles of my parents that always motivated me to achieve and accomplish; to reach heights never before reached by my family members, to be able to provide a better future for my parents when they were aged and weak. Sadly, just when I had begun to taste the fruits of my labor, my father died. But his hospital room was always packed with family, and he did not die alone. Like he said, he died a rich man.

IT WAS THE
STRUGGLES OF
MY PARENTS THAT
ALWAYS MOTIVATED
ME TO ACHIEVE AND
ACCOMPLISH...

My best and favorite subject was mathematics. I was interested in pursuing a career in aerospace engineering, then in genetic engineering. My parents were not familiar with MIT, but they learned that it was one of the best schools in the world in mathematics, science, and engineering, if not the best. They were proud of me but afraid for me since I would be the first to live so far away. However, they knew they could not stop me. My whole life, if ever I wanted something, I would not stop at the negative words, or the ridicule from people, I would work to attain it.

And here I was, about to attend one of the best schools in the world, a dream come true for me. There was nothing to stop me. My parents were humble and impoverished, and they did not have money to pay for anything. I used my savings and scholarship money to fly there and financial aid to feed and house me. While a student at MIT, I worked at the library and then an office to earn extra income for my flights home and for food. My parents were unable to afford a trip to Cambridge, MA, and it was not until four years later for my graduation that they were able to come, I had saved enough for their tickets by then. That was the first time they would visit MIT, but not the last. Four years later, their fifth child would also attend MIT and major in mechanical engineering.

COMMUNITY

It was the hardship of my parents and the Hispanic people in my community, the lack of education, the language barrier, the poverty, the violence, and the fear in which they lived that fed my passion for pursuing a higher level of education. Unfortunately, I did not have mentors to encourage or guide me, but God, the selfless acts of my parents in supporting us in our physical, spiritual, and intellectual development, and seeing how much they worked and suffered, were enough to propel me to higher pursuits.

Compared to students from more elite families and communities with parents who were affluent or well-educated, I did not come to MIT prepared. The quality of education in our Los Angeles Unified School District ranks low compared to other prestigious high schools in the nation, but I had a heart, an indomitable spirit within me, and I carried the pain, the scars of my family, the oppression of a people judged by the color of their skin and the accent in their voice. A voice often ignored by the popular and powerful.

This light that I carried within me all those years, that still I carry, has left many people confounded. How can this short, Hispanic girl with an accent achieve so much? Having never tried track and field in my life, I joined the MIT team as a freshman and ended up setting the school record in the

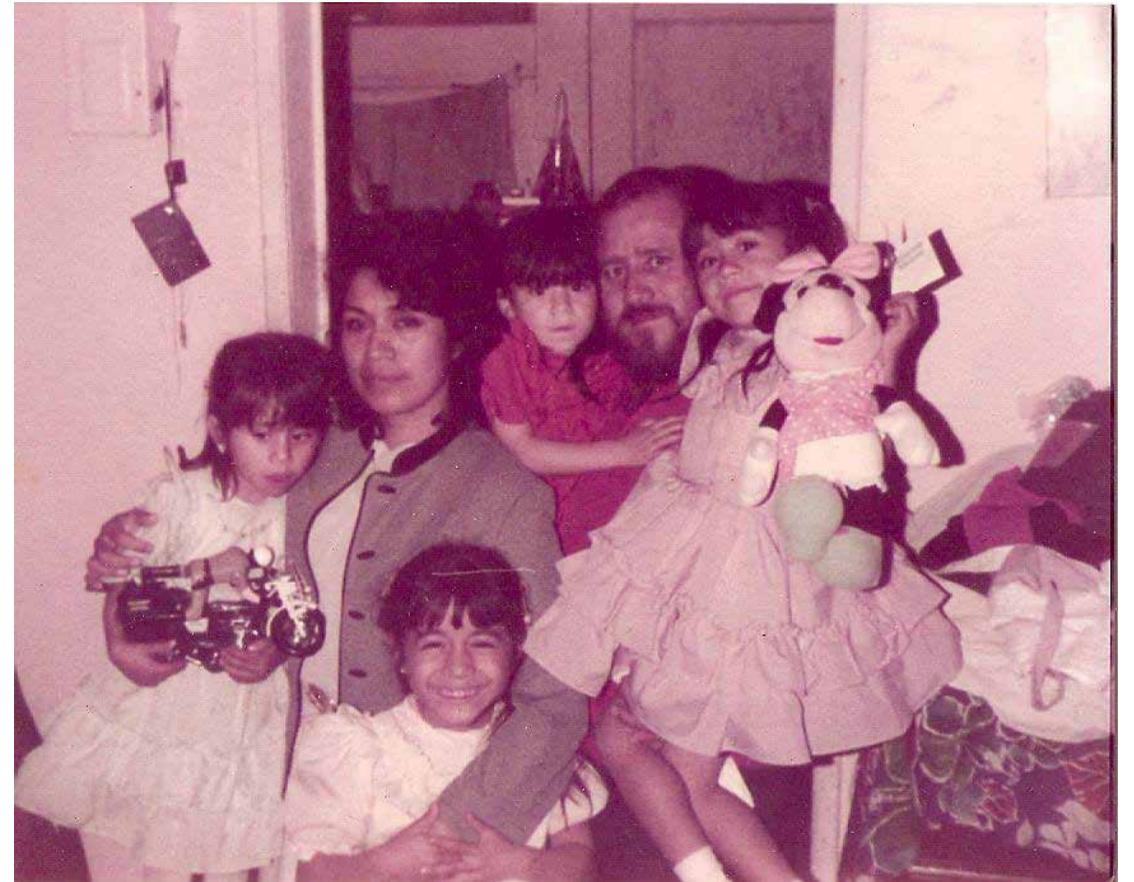
javelin. I remember that championship well. I was surrounded by tall, muscular white and black women who looked like gladiators. I gave a small prayer, made the cross sign over my face, and took off with the javelin on my right tendinitis-plagued arm, running as I used to when I was a child in gymnastics then throwing that javelin with my heart and soul, to land with the winning distance and setting the school record at MIT. Yes, short, skinny, Hispanic girl, me. Praise to my faithful God.

The three most important things I did to prepare for college:

1. Find out what kind of student the University seeks and become that student. For example, more and more colleges are focusing not just on academics, but on a well-rounded student. Which means: Get the best grades. Serve in your community- volunteer at a church, a shelter, or hospital. Tutor. If you can, go to another country and serve on a team that builds homes or purifies water (this looks good on paper). Mexico is close by. I did not have the opportunity to do this when I was young because I did not possess the funds to travel to other countries back then, but when I later served on some scholarship committees I noticed they like these kinds of applicants.

Also, involve yourself in sports. In addition, learn to play a musical instrument. When I was interviewing medical residents into our Medical Residency Program, we were given a checklist to see which applicants: played more than one musical instrument, volunteered, were doing something to learn a new subject, had some kind of physical/athletic pursuit. So everyone is looking for that “well-rounded student,” not just the nerd hiding in a room reading books.

Don't get me wrong, I am a nerd, I love sometimes just to hide in a room and read or study or write and be left alone, but I also get out and hike, or canoe, or visit family or travel the world. Every other



day I run or execute a three-mile elliptical machine workout, do two-hundred and seventy sit-ups, and lift weights. Staying in physical shape is extremely important to me, as is my brain.

2. Study. I made sure to study and go to my teacher when I didn't understand something. I asked questions; this is the best way to learn. Who cares what others think - you need the grade, and understanding the material gets you the grade. So ask. Chances are someone else has the same question. Do lots and lots of practice questions, this is one of the best ways to prepare for standardized exams.

3. Join clubs at school. This also helps your application look strong, especially if you hold an office: president of the club, etc.. I was part of MESA – Mathematics Engineering Science Achievement Program, and other clubs whose names I can't remember!

MY COLLEGE EXPERIENCE

I come from a large family of nine. During my entire formative years, I was surrounded by younger siblings and children screaming and crying, my dad's thunderous voice in the background, my mom complaining, and the rowdy neighbors. In order to study, I had to lock my bedroom door so my youngest sisters would not bother me, but that would cause a scene. Thus, when I left for college at the tender age of seventeen, it was extremely difficult. I missed my family terribly. I remember having a hard time falling asleep because it was "so quiet!" Where were the gunshots? The freeway car sounds? The rowdy neighbors drinking? The pungent marijuana smell from the gang members on the corner? Where was the yelling of my parents and nagging of my little sisters? That familiar sound of keys that announced my dad's arrival? Loneliness was my new companion.

I had a passion for lessening suffering in a human being and decided to pursue a career in genetic engineering, but MIT did not have it as a major, thus I decided on biology and to minor in biomedical engineering. However, when I decided to become a doctor near my last year at MIT, I had to let go of my minor in biomedical engineering to attend a Princeton Review for the MCAT. It was easier to minor in psychology.

Grants and scholarships, as well as a part-time office job, helped me fund my tuition, living and traveling expenses. There are many jobs at MIT where you can sit at a desk and study while still getting paid.

My greatest challenges at MIT were: 1) Not having my family. 2) Being average or below average in classes. 3) The academic challenge itself. 4) Loneliness.

It was culture shock. I came from a predominantly Hispanic neighborhood, and MIT contained people from all over the world. There were rich and poor, Asians, Whites, Indians, Blacks, Jews, Pakistanis, and diversity even among the Hispanics. They were from Puerto Rico, Cuba, and the Dominican Republic; many of them came from well-off families. I did find a group of people who shared my background and understood my struggle. They were part of the club: LUCHA. Here I found students that looked and talked like me; they were from neighborhoods similar to my own. This became a small support group for me. Although we were all busy in our own respective majors, there were social functions every so often which helped.

There was a pre-college summer program that I attended with other “minority” MIT freshmen, and it was here where I met my best friends for the rest of the four years and many with whom I still maintain contact. I highly recommend attending one of these pre-college summer programs. To clarify, this is a program for those admitted to MIT who will be starting in the fall. It gives you a chance to meet other freshmen and take some preparatory classes.

I had never boarded a plane before in my life, until the day I had to leave for MIT. I took that plane



alone. The woman next to me was excited for me to start this adventure. I boarded many, many planes after that. I guess you can call me an expert now. Back in those days, I believe the check-in luggage weight limit was 72 pounds per bag and you were allowed two below and one above, for free! I left fully loaded. In the future, I would also travel with tamales in plastic bags that would cut the skin of my hands from the weight. Often I ate tamales for lunch and dinner. I ate so many tamales that even now when I hear that word my stomach gets sick.

MIT was difficult. You are competing against the top students of countries! I have to say, despite the academic challenge, I felt that I fit in. By my last year at MIT I was happy and doing well. My friends had become my family away from home and I was sad to leave.



I ATE SO MANY
TAMALES...

REFLECTION AND MESSAGE

I am nearing the age of forty, and while that was old and far away when I was a child, it is very imminent and real today. Yet, when I meet people, they think I am in my early twenties. I look around me, and I understand why. Sit back and listen to the words of wisdom I will share with you. Hold them fast in your heart and remember them each time you are about to make a choice. I will speak openly and honestly; offending is not my goal. Rather my goal is to shake some sense into you so that you maximize your life and provide a better future for you and your family.

Take care of yourself! Love yourself! Yourself has taken you through so much suffering, has held your weight all these years, has allowed you to taste, to feel/sense, to think, to speak, to breathe. How many out there cannot see, or hear or speak, or walk, or taste? You are a miracle! Embrace this truth, appreciate it, appreciate yourself, be kind to yourself. Why focus so much on pleasing others while abusing yourself? Be gentle with yourself, you deserve it.

When all is said and done, and you are seventy, eighty, or ninety years old, all those people you thought were your friends, or that special loved one you thought would stand by you through thick and thin, they may not be there. But you know who will still be there? YOU! You yourself will be there, staying up late hours or waking up early, cleaning with you, crying with you, walking for you, fighting for a reason to keep living; you got it, YOU. You will be your most faithful companion until your last day on this Earth, so why not start loving and appreciating YOU now? Your health and physical condition when you are forty, fifty, sixty, seventy, or eighty years old, will depend on the choices you make today. Start now. Don't end up in a wheelchair because you are too overweight for your knees to sustain. Believe me, I see it almost every day at work. If you eat healthy, you are healthy; if you eat junk, you are...well, fill in the blank.



The most basic formula: 1) Take care of your body! Eat healthy food and exercise! Eat fruits and vegetables. Fish is extremely healthy and good for your brain! Especially salmon. Take omega-3 fish oil, it's good for your brain and mood. Avoid red meats, pasta, tortillas, bread, rice, pizza, hamburgers, French fries, chips, sodas, and processed foods. Exercise for forty-five minutes five days a week, and I mean an intense exercise. If you are exercising correctly, you should not be able to maintain a conversation. Often I hear people tell me "I do exercise." When I ask them what they do exactly, their genuine response is "I walk from my apartment to the car." They truly believe this is exercise, I'm not joking.

2. Take care of your mind! Don't listen to and watch trash. That's right. Choose books/magazines, films, and music that will fill your mind with positive images and thoughts and will stimulate your brain. What kinds of movies are you watching? What you listen to, read and watch daily, is feeding your spirit, your mind, and your emotions and they will have a strong effect on how you think and feel! Ultimately, how you think and feel will determine your actions. Thoughts lead to feelings which lead to ACTION. What thoughts are you allowing? Did you know you can control your thoughts? Absolutely, you can truncate any thought if you stop and decide to do it. It takes practice, but it can be done. Stand up for what is honorable, praiseworthy, good! Surround yourself with positive material. Guard your heart, eyes, and ears.

Although it may sound farfetched, these images and messages can destroy us slowly, resulting in low self-image and negativity, persuading us to give in to sexual temptation, drugs, or other destructive lifestyles. You may have grown up thinking you are no good. Maybe your parents are drug addicts, you never met your dad or mom, you were sexually abused by someone that was supposed to protect you, your parent called you so many hateful names you often forgot what your

real name was, you were physically beaten so often you came to believe it was normal and a sign of love, your parents fought and argued so much you thought marriage was supposed to be that way, you lived in a car because there was no money for a real house, you prayed and prayed and heard no answer from God and thought God abandoned you. You look at yourself in the mirror and you don't look like the women in the magazines. You don't feel as strong or brave as men are supposed to be. Most times you want to hide and cry but there are no more tears to shed. There is so much pain or fear in your heart you are afraid to allow people into your life.

You are not alone. Many have gone through what you have gone through, so forgive those who have hurt you and move on. Forgive, but don't forget. The past is one of our greatest teachers. Most importantly, forgive yourself. You are human. Humans are imperfect creatures, we make mistakes every day, we hurt those we love unintentionally and intentionally. Don't beat yourself up over what was. No matter your story, it could always be worse.

When God made you He said, "It is good." He made you in His image, believe that. You are a daughter or a son of a great King, that makes you royalty. It doesn't matter where you come from, what you have been through, you deserve to live. You are not better than another person, nor are people better than you, we are just people trying to survive. Thus, be not ashamed of yourself, but spread your wings and fly like the eagle, soaring above the challenges.

Get an education, go to college. Don't be the high school drop out or the high school graduate that didn't do much with his or her life. Don't start having children until you can take care of yourself. If you have children, it's not the end of the world, you can still go to school. Love your children enough to give them the best you can give of yourself- someone who has developed his/her mind,

established a career, is able to provide a home for his/her children, and does not depend on the government to provide. You are a capable person. You are strong. You can resist all temptations, but you have to decide on what you want. Your choices now don't just affect you, they affect your family, your future children, and your entire future!

Make the smart choice, stay in school, go to college, get a career, and also plan for your retirement! That's right - when you are old, how are you going to live? At this age, you will not have the physical strength or mental agility you have now, companies will not want to employ you when they have young energetic people who can do the job faster. How will you live, pay your bills, eat? Your children? Don't bet on it, they will be too busy trying to feed their own children. Start planning now, look into investments and retirement programs. Put a little bit of money into this retirement plan: 401K, Roth IRA's, etc.. If only I would have known then what I know now. If you follow my advice, by the time you retire, you will have millions. I am not kidding. Check out a book from the library on this topic and you'll see. Also, read this book: The Millionaire Mind by Thomas Stanley - it has opened my eyes to so many truths!

Latinos will become the majority in this country, and as such, we should represent well. Let us not be ignorant and subservient, cleaning toilets, toiling the earth under the hot sun, or working at McDonald's. Although all of these are honorable jobs, they will not help you purchase a house, feed your children properly, provide competitive medical benefits, or enable you to save for the future. I challenge you to seek greater dreams, to beat the stereotype and conquer your fears. I bless you my reader and I pray that you have received this wisdom with an open heart. I look forward to coming across your story in the future. Remember, be to yourself the kind of friend you always wish you had.

BE TO YOURSELF THE
KIND OF FRIEND
YOU ALWAYS WISH
YOU HAD.

LETICIA
BARCENAS



TODAY

I am a graduate of MIT with a B.S. in Chemical Engineering and a graduate of Northwestern University-Kellogg with an MBA, majoring in marketing and operations. I also have a master's degree in engineering management from Northwestern-McCormick. I have had multiple career changes: I started in engineering (process, project, R&D, environmental, and quality) at Abbott Labs in pharmaceuticals, then moved to software project manager at Lucent Technologies in telecommunications. Then finance as CFO for a non-profit and senior analyst in media, to finally become a technology project manager in media.

The key professional successes I am most proud of are the installation of Abbott's first ethanol recovery system in Puerto Rico (it was a cost reduction as well as environmentally friendly initiative), receiving the Chicago Tribune's Individual Ascender's Award for analysis of capital projects, and receiving the Tribune Publishing's Publisher's Award for evaluating the financial and resource impact of incorporating a rival newspaper's print and packaging operations.

PERSONAL STORY AND PATH TO COLLEGE

I grew up in Pilsen, a predominantly Mexican-American neighborhood on the west side of Chicago. There was visible violence in the neighborhood: gang bangers, shootings, and drive-bys. I went to a public elementary school. It was only two blocks away but we had to walk by abandoned warehouses and on deteriorated sidewalks to get to school. During my fifth grade year, they had to combine the fifth grade class with the fourth grade class but they took a handful of us and moved us to sixth grade. My elementary school only went to sixth grade and I was really scared to go to the public middle school because of its violent reputation.

The school counselor mentioned to my parents that I would probably have to stay an extra year in middle school because I would not be at an acceptable age when I would complete eighth grade – I would be too young. My parents were upset because they couldn't understand why if I was mentally prepared to go to high school, I could not go based on my age. Thus, my parents scraped together enough money to send me to a Catholic middle school.

I was relieved! The school was smaller, closer to home and I felt safer. Back then, streets were heavily segregated by gangs and now I did not have to cross any streets with known gang activity to go to school. For high school, the pastor counseled my family to continue my education in the Catholic school system and go to St. Ignatius. St. Ignatius was a well-known and excellent school but I had to get on a public bus to go to school. Again, I was nervous – get on a bus by myself?!?...No way! Since my parents could not afford a Catholic high school education, the pastor explained that I could get a scholarship. But the scholarship application asked for financial information...if they felt



I was worthy to go to their school, why did they need to know how much my father made or how much he had in his savings account?

My dad was not having it. I was again relieved! The public high school I would go to did not require me to go on a bus. I was now older and felt I could “handle” the walk, and I would now reunite with my friends from elementary school. Upon starting high school, we had to meet with the counselor, Grace Gonzalez. She looked at my grades and my test scores and said, “You’re going to college.” That was the first time I had thought about anything after high school life and the first time I thought of college. She signed me up for algebra and biology and I fell in love with solving for x .

My mother used to take us downtown and I had loved seeing all the people dressed so nicely and professionally in suits. I looked at the beautiful skyscrapers and thought I would like to be a secretary so that I could work in an office, avoid manual work, and wear nice clothes. I had taken typing in seventh grade and thought, “This is a profession I can strive for!”

My mother and other neighborhood mothers worked in a factory printing shampoo bottles. We used to visit them in the evening in the summer and one day she left me on her production line while she went to the restroom – I could not keep up and some of the bottles fell to the floor. I knew then that I did not want to work on a manufacturing line! My dad worked as a butcher in the freezer most of the time and he used to wear multiple layers of clothing to stay warm while he worked. He would leave for work at five in the morning.

I still remember the day I found out I was accepted to MIT. I was still at school at a club meeting when everyone said the counselor was looking for me because the school had reached out to her indicating that I was accepted. I called my mother to see if a package from MIT had arrived and it had – I practically ran home. I opened the heavy envelope and was ecstatic!! My father was happy. My mother, on the other hand, said I could not go. Why was I going to a college hundreds of miles away when I had the University of Illinois at Chicago, literally six blocks away? How could her eldest go to a city with no family or friends there for support? How would her daughter be safe?

I was mortified – I worked so hard and GOT ACCEPTED TO MIT and I could not go!!! I mentioned it to the counselor who reached out to MIT. Eddie Grado came to meet with my mother. He brought flowers and told her that if she could not get a hold of me, he would find me (remember, there were no cell phones back then). I explained to my mother that I REALLY wanted to go there and I promised that upon graduation, I would return to Chicago. With my dad's support, she reluctantly said okay.

“THIS IS A PROFESSION
I CAN STRIVE FOR!”

EDUCATION WAS
POWER AND NO ONE
COULD EVER TAKE THAT
AWAY FROM YOU

FAMILY

My mother grew up in Gary, Indiana. My maternal grandfather came to Gary to work in the steel mills. Once he was situated, he sent for my grandmother and my mother who was just a child. She recalls how it was a huge culture shock for her. They cut her long hair because it was not the norm here. Her name was changed from Maria de la Luz to Mary Lou because her name was too difficult to say here.

As a young adult, my dad came to the United States through the Bracero program and worked in California as a migrant farm worker. He later came to Chicago to work in the meatpacking industry. My parents were always very supportive of my education. My dad's small town in Mexico didn't have a high school. He instilled in us that education was a privilege that we should fully take advantage of, that education was power and that no one could ever take that away from you.

The first time my parents came to see me at MIT was at the beginning of freshman year (by this time, I had already spent the summer at MIT for Project Interphase). They drove from Chicago to Boston because airfare for all was unaffordable and they were bringing my two prized possessions: my computer and my television set. I had won a monetary award for a computer as part of the city science fair (I had coded a simulation program for my project). My parents chipped in the rest so I could get a state of the art computer because my father did not want me going to or from the library at late hours just to use the computer. It had amber lighting versus the bright green so as not to hurt your eyes – I had never had something so new, so expensive, so state of the art! And my television, well that was a graduation present from my parents. Our neighbor worked at Zenith and with the employee discount, they got a great deal!

They left Chicago on a Friday and arrived late Saturday evening. I was bummed because I wanted to show them around but everything was closed; we barely found a place open to eat. Bright and early on Sunday morning, they took off back to Chicago because my father had to go to work. They had told me they had gotten a flat tire coming up to Boston and I was nervous and prayed all day Sunday that they would return safely (remember, no cell phones so I did not know where they were or how they were doing). I felt so alone that Sunday thinking the worst – if something terrible happened to their car, that was all of my family, I would have no one.

My parents did not know what MIT was. They thought I spoke highly of it and its ranking merely because I wanted to go there. It wasn't until my mother ran into an old high school teacher of mine that she realized my challenge. My mom mentioned that she was sad because I was so far and no longer at home and the teacher told her not to worry because I would be home soon. My mom said she understood that winter break was in a few months so she agreed with the teacher. But then, the teacher clarified that I would soon be home because I would flunk out of MIT. Yes, I was valedictorian but that was at Benito Juarez High School, and now I was at a "real" school, MIT. There was no way I was going to survive – I had been a big fish but in a small pond but now I was a small fish in a big pond. My mom was so furious that she did a complete 180° – originally, she did not want me to go there...Now, she wanted me to graduate from MIT! After that incident, her full support really helped me.

COMMUNITY

In high school, I participated in a Saturday program called S.T.E.P. (Students, Teachers, Educators, and Parents) at DePaul University. The program's math teacher, Mr. Felipe Weffer, was an electrical engineer from Venezuela. Wow, a Latino engineer!! Together with his wife, Dr. Rafaela Weffer, the program's director, he would push us hard to learn math inside and out. One day, they took us on a field trip to Zion, Illinois to see Commonwealth Edison's nuclear plant.

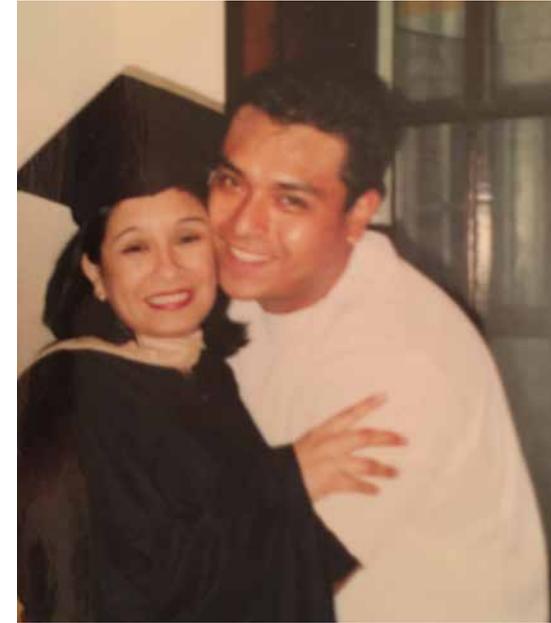
The day I first saw those reactors and their control panels was the day I knew I wanted to design and control them. Mr. Weffer, along with other STEP mentors, promoted the field of engineering. Since I still really didn't know what engineering was or the difference between the disciplines, I took the five Mr. Weffer mentioned and crossed out the ones I knew I did not have an interest in: electrical, mechanical, industrial, and civil were out. Chemical was left so I decided that was going to be my major.

Coming from a small middle school (approximately sixteen graduates) to a large high school (about 800 freshmen), I quickly made good friends with my fellow STEPpers. STEP was a new program then and there was only one STEP graduating class above ours. I heard the upperclassmen in that class talk about college so I wanted to go, too. I looked up to Jose Martinez and Silvia Navarro and I, too, wanted to go away to college to the University of Illinois at Champaign-Urbana. Then I heard a fellow classmate of mine, Rogelio Botello, was interested in Stanford and that just opened up my possibilities – you mean I can apply outside of the state?

That year, Anthony Canchola-Flores was assisting in conducting school visits to recruit for the admissions office. He had heard that a new high school was in Pilsen (Benito Juarez High School was founded in 1977) so he visited my school. I was fascinated with MIT, a place where I could be with others who loved math and science as much as I did!! It was an awesome place where things were discovered, created or invented!! It had an excellent reputation in engineering. It was MY dream school!! He explained the prerequisites to apply: the classes I needed (check – on the right track), the minimum ACT score (which was almost double what the average was at my school – ok, have to work on it), the essay (I can write), letters of recommendation (I'll get them) and extra-curricular activities (double check – I was in STEP, I was working almost 20 hours a week, and I was very active in school).

Most were in my control, except for the school transcript and the letters of recommendation, one of which was a mandatory letter from the school counselor. I started there. I talked to my counselor and she explained that MIT was an elite school and that I really needed to be prepared and that I needed high test scores. She explained that schools have an application fee and that we should really not be frivolous in applying. I told her I understood all that and that I wanted to apply. She said she would write the letter. Days passed and no letter. I had my sealed school transcript. I had my other letters. I had been using a study guide for the ACT and scheduled myself to take it three times (someone had mentioned it was a good idea to take it more than once). And I waited.

I explained my frustration to my mom and she said she would go see the counselor. My mom showed up early and the counselor said she had a busy day – my mom said she would wait. There were a few chairs outside of the counselor's office. Kids came and left and my mom waited. It was the end of the day when the counselor noticed that my mom was still there, and she was surprised.



Finally, my mom explained that as part of the MIT application process, I needed a letter from her. The counselor explained all the same items she had mentioned to me: the high test score needed, the fact that it was an elite school, the cost of the school, and the cost of the application – my mom told her that I was determined to apply and that we, as a family, would take one step at a time (how could we worry about the cost of the tuition if we could not get through the application step?).

By the end of the week, I had my recommendation – Go, mom!! I practiced and practiced for the ACT – I practiced with my group of friends, I went to the library and practiced, and I practiced at home, every chance I had.

MY COLLEGE EXPERIENCE

Once I was accepted and I had my parents' approval to go far away to school, we looked at the financial aid package. I did not have a good concept of finances but when I saw the bottom line, I did not know how all those expenses would be covered. I showed a mentor my package and he explained in detail which amounts were meant not to be paid back, which amounts I was to take out as a loan, and which amount my parents were to contribute. For my portion, I was so elated to be accepted to MIT, I did not mind signing up for anything they deemed necessary (again, step by step – how could I worry about paying back the loan if we could not cover the cash/parent contribution portion?) My contribution had loans, summer work, and part-time work during school – fine, I can commit.

My parents' portion, however, was harder to swallow. I was the oldest of three. Like other classmates, maybe I should go to work and help my parents with my younger siblings? I should be helping the family, not sinking us further. My dad said that college was an investment in my future and that later, I could help my family. I promised my parents to be frugal and that I would try to cover their contribution as much as I could. Luckily, I had received a scholarship from Inland Steel for \$500 per semester that they were giving directly to me and I used that to help my parents.

During my freshman year, I worked in the cafeteria and that was extremely hard work. My dad told me to find a job where I could possibly do my homework or learn something. I eventually ended up working the front desk of our dormitory. I also did not stop looking for scholarships. We did not have the Internet so I spent a lot of time at the library. I applied and was denied many scholarships. Through the help of the Office of Minority Education (OME), I was able to secure a scholarship that

paid 100% tuition for my remaining years (as long as my grades remained above a C average). I also reached out to Mr. Weffer and asked for his help on summer internships – he was able to connect me to Amoco, where I did my first internship with no experience. I took out a personal loan, had my father co-sign it and promised him I would never default on it.

It was extremely hard saying goodbye to my family as I boarded the plane. As I walked through the aisle, I looked at every window to get a glimpse of my family who was pressed against the bay window in the waiting area (before 9/11, you could go all the way to the gate to see your family off). I had never been to Boston. I had only seen MIT in catalogs. The plane was small – we had bought a ticket on Midway Airlines that left out of Midway Airport (the airport was small back then – now it is international – and only serviced one airline) because the airfare was much cheaper than flying out of O'Hare Airport. I was extremely nervous and excited!!

As the plane descended, all I saw was water. I did not know how to swim. No one was sitting next to me. There was much turbulence. I thought the plane was crashing!! My heart was racing. I thought, "What did I get myself into? I am going to die alone!! I can't believe I am so far from home and alone." Then there was land – whew! No one had mentioned that Logan Airport was near a body of water...

The hardest part for me was the culture shock and the "subtle" discrimination (racial, gender, economic) that would surface every once in awhile. We had two television channels and two radio stations that were transmitted in Spanish in Chicago. We spoke Spanish at home all the time. There was Spanish everywhere in the neighborhood: on the store signs, people speaking in the streets, and music blaring from the cars. We had a panaderia three blocks away and a tortilleria just one block away. I missed my family. We were very "touchy-feely" and MIT seemed so cold to me. I am a "hugger" and I missed hugs!

I was lucky to start MIT over the summer, in a program called Interphase. It allowed me to know the campus, make friends, and take classes before actually starting in the fall. Some of my very best friends and support group came from Interphase. While taking physics over the summer, I met Mike Dixon, our teaching assistant. He was from Chicago!

When the fall semester started, I was petrified that I would flunk out of MIT. Everyone back home was so proud that I got in. People were counting on me. I was setting the lead. I was going into uncharted territory. What if I could not make the grade? I told Mike my apprehensions and that I thought physics would be my downfall. He told me that I would be fine and he assisted me in studying for the first exam. We practiced problems. He answered questions. And I studied some more.

I obtained an A!! A kid from Benito Juarez High School, a kid from inner-city public school, a Mexican-American, a female, got an A at MIT! Granted, it was not an A in the class and it was only the first exam. Granted, passing score was a 13 out of 100 (we were graded on the curve). But it showed me that if I put my mind to it, I could survive MIT! I just needed to remain focused.

During my sophomore year, it was announced that Interphase was ending. Interphase alumni were upset because we knew that it was a very valuable program for us. We organized ourselves, all wore red, and demanded that the MIT administration reconsider its decision. Various members of the minority organizations united: LUCHA (La Union Chicano por Aztlan), BSU (Black Student Union), APR (Association of Puerto Rican Students), and AISES (American Indian Science and Engineering Society).

We picketed in front of the dome on Mass Avenue. We petitioned our fellow students for their support. I went up to an upperclassman and asked if he would sign our petition. He said that if students needed Interphase then maybe they shouldn't be at MIT. He said that he did not believe in affirmative action. That I did not belong there. I held my stance, walked away, and asked the next person if they would sign. My dad had always said not to show others how dire, how upset, or how hurt you are.

That night I cried in my room. Maybe I did not belong at MIT. Maybe that guy was right. I didn't come from a college prep school. I barely fulfilled MIT's requisites to get in. I was so, so homesick. It was so hard here – academically, mentally, emotionally, you name it. Why was I here? What got me here? My emotions were spinning. But then I focused. I met MIT's requisites – through the skin of my teeth but I met them. I received the minimum ACT score. I made it through my freshman year on my own, taking the same classes, using the same grade curve, no one took the exams for me, no one was holding my hand. Yes, I attended Interphase but those classes didn't give me the answers for the exams. I worked hard during Interphase. I earned my grades!

And I remembered all I did BEFORE I got to MIT. I remember walking across the Chicago River with my parents in the dead of winter, just to get to the city library because my high school library did not have the books I needed. I remember skipping lunch just so I could attend a computer programming class because it was the only one being given at my school. Not all schools are created equal and not everyone is born with a silver spoon in their mouth. So until the playing field is leveled, those experiences need to be weighted for a chance, for a shot, but once that is given, the rest is up to the individual's hard work – there are no free rides.

REFLECTION AND MESSAGE

The advice I would give to a young student is to have a thick skin. There are times negative comments are said or impossible obstacles are placed in front of us. Sometimes they are from individuals who try to make us feel inferior in order to make themselves feel superior. Other times, they are from loved ones who may not understand us or want to feel like they are protecting us. Find the inner strength to keep going. Find what you need as an outlet – if it is crying, cry. If it is yelling, yell your heart out. Find someone you can confide in, whether friends, family, a total stranger from a health clinic, or a priest, but ask for help, ask for support and keep moving forward.

While growing up, my dad always said we should not feel bad if we tried our best. I also believe strongly that God has a plan and his reasons, and we may not always know what they are. I pushed and tried for MIT and I graduated. But there were others who tried MIT but did not get in, or did not graduate, or did not get straight A's at MIT. We need to readjust and go with plan B but keep moving forward.

The advice I would give to someone starting out in their engineering career is to take an accounting course. As engineers in a cost-conscious environment, we need to understand the business aspect and lingo to fully defend our projects and articulate the benefits of our projects such that we may continue to receive funding.

I would also recommend establishing a strong network. With many social media tools like LinkedIn and Facebook, staying in touch is much easier and finding others with similar interests is also much easier. Others reach out to their dad's golfing buddy for a summer internship or ask their mom to help with their fluid dynamics homework. As more and more Latinos go to college, become

professionals and become successful, we need to also leverage our contacts and help those coming up behind us. We can help catapult them even higher than ourselves.

Lastly, I would advise to never stop learning, whether it is an advanced degree or a career switch or a new hobby. Keep your mind active.

I've been extremely fortunate and blessed to have many excellent people support and guide me through my life!! From my elementary school teachers who now mostly have awards named after them, to high school teachers who pushed me to cram every school hour with a learning opportunity or activity, to an engineer and his wife (Mr. & Dr. Weffer) who took a chance on my high school to expand our knowledge beyond our school and neighborhood, to an MIT OME director who decided to visit a little known high school, to all my friends along the way who genuinely were happy of my successes and lent many a shoulder, to my loving brother and sister for whom I've always striven to be a good role model, to the loving husband and daughter who make my life feel complete. Most of all, I am grateful to my parents for their support, love, and understanding throughout my life!!

What else am I looking forward to accomplishing in life?...Whatever God has planned. I've been an engineer designing reactors and scaling distillation columns for a pharmaceutical company. I've been a Chief Financial Officer for a non-profit organization promoting affordable housing. I've been a financial analyst evaluating large strategic moves. I've been a project manager leading teams in developing and implementing software applications and in establishing new hardware in the media industry. I can't wait to see what lies ahead!!

DIONE STURD



TODAY

I have a Bachelor of Science in Civil Engineering from the Massachusetts Institute of Technology (1996) and a Master of Arts in Military Operational Art and Science from Air University (2011). I also earned a Certificate in Software Engineering from Carnegie Mellon University (2008). I'm currently a Senior Software Engineer at Surge, a leading provider of custom web, mobile, and desktop software development and consulting services to clients in every major industry.

My focus for the past fifteen years has been mostly web application and API development using C# and the Microsoft .NET Framework. I'm also a Lieutenant Colonel serving in the Air National Guard. I am currently serving as both the leader of operations and an engineer for an engineering and installations squadron. Additionally, I'm a competitive sculler who has competed in multiple United States Masters Nationals Rowing Championships.

GROWING UP

I grew up in Hartford, Kansas, a small, agricultural town with a population of about 500 people. I went to school at Olpe High School in Olpe, Kansas, where I was one of twenty-two students in the graduating class. I was also the valedictorian of my class. I was raised in a farming community and although my parents were not farmers, my dad made us work in the garden and help him with construction projects throughout the year. I recall working in our huge garden with my siblings throughout the long, hot summers.

We also hauled hay, cleaned out horse stables for a local farmer, salvaged materials from old houses and buildings that we tore down, removed rotten silage from various silage pits owned by farmers around the area, pulled more weeds than you could imagine, helped dad pour concrete and had fun while doing it! Through these experiences, I learned not only the value of the dollar but I also learned the value of hard work, perseverance, and discipline.

I grew up without a TV or an air conditioner for most of my youth. Actually, we had a window unit air conditioner when I was really little but I have very few memories of us using the air conditioner. I recall when we were allowed to use it, we could only cool the main living areas. A lightning strike

blew out our TV when I was nearly eight years old and my parents decided not to purchase another one until I was in high school. Our replacement TV was a thirteen-inch black and white TV with rabbit ears and we only received one channel. The picture quality was consistently poor and it made it nearly impossible to watch any shows.

I generally kept busy playing the piano, reading books, playing with my siblings, and discussing current events and politics with my dad. My parents kept instilling in me and all of my siblings the need to get an education. My parents would often say, "no one can ever take away your education." I know they wanted us to have a better life than what they had and I also know that they knew we could earn more money with an education. My parents taught me that I could be whatever I wanted to be and that I could achieve whatever I wanted through hard work and discipline. I have always had a passion for learning and I have always thoroughly enjoyed school and academics. For most of my education, I was the only minority in my class and often, the only one in the school, except for my siblings. I believe this also helped drive me to do better in school as I felt a strong sense or desire to be the best student in my class and to eventually pursue a college education.



FAMILY

My parents were born and raised in Kansas. My mom is Mexican-American and her father came over from Mexico when he was a young boy. My maternal grandmother is also Mexican and she was born and raised in Kansas. My paternal grandmother is of Polish background and my paternal grandfather is of German background. So I am a mixture of Mexican, Polish, and German backgrounds.

Neither of my parents went to college but both earned a GED. From my earliest memories, both of my parents worked in a nearby beef slaughterhouse/processing factory until my dad hurt his back in 1979. My dad became disabled as a result of this injury but he continued to do odds and ends jobs for people in the local area. My mom continued to do factory work and at her last factory job, she was a welder for a factory that manufactured radiators. She would sometimes talk about how she would have to lift these heavy radiators at work. I recall one time when she was happy because she got a ten-cent raise at work. I can't even imagine doing this type of manual labor for years on end.

I am so proud of my parents for all of their hard work, generosity, and the sacrifices they made. My mom worked the second shift throughout my junior high and high school years so unfortunately, she missed many of my school activities and athletic games. I missed having my mom around in the evenings such that when I was in high school, on the evenings I didn't have any school activities or events, my dad and I would frequently drive the seventeen miles to go visit her on her dinner break which was always around nine p.m.

My dad is probably the smartest person I know. He was always reading books, newspapers,

magazines or whatever he could get his hands on. We had an encyclopedia set growing up and he would often read the encyclopedias. To this day, he is definitely the person you want on your team when you play Trivia Pursuit.

I knew growing up that I would go to college someday and that I would have to carve out my own way to pay for it. I knew my parents didn't have much money and they didn't really help my older siblings with their education so I knew I was on my own. My parents were extremely supportive of my pursuit of a college education. They helped pay for the application fees and they paid for my trip to attend MIT's Women Minority Weekend in the spring of my senior year.

I recall MIT had a fifty dollar application fee and I was nervous about asking my parents for that much money. I worked throughout high school as a waitress but for whatever reason, I didn't have the money and I had to ask mom and dad to pay for that application fee. I recall thinking that I was just going to be wasting their money because I probably had a very slim chance of getting in. I remember talking to my dad the day before the application had to be postmarked and he said, "Look, what is the worst that can happen? They are either going to tell you yes or no." With that, I decided to go for it and that is how I made the decision to submit my application to MIT.

My parents ended up driving me to the airport and gave me a few hundred dollars which I was clearly not expecting. They also paid for my first round-trip ticket to Boston and I remember I cried most of the flight from Kansas City to Boston. I knew things were never going to be the same again. The only time they ever visited me at MIT was for my graduation. If it wasn't for my sister encouraging them to fly to Boston for the graduation, I'm not even sure they would have come then but I am so thankful they did.

COMMUNITY

My parents always wanted me to be the best I could be. When I would come home with all A's on my report card, my parents would not reward me with any monetary awards but they would always tell me how proud they were of me. Those words meant the world to me. I can't recall a time when I didn't have a strong desire to succeed, to be the best I could be, and to make my parents and my siblings proud of me. Growing up, it really didn't cross my mind that I wouldn't go to college. The seed was planted so early for me and my siblings to go to college that we didn't even question it. It was more a matter of how were we each going to pay for it.

I grew up with enormous community support. My teachers were unbelievable and truly exceptional. One of my math teachers in high school worked with me and two other students before school so we could learn more advanced math. She truly went above and beyond her normal duties to help nurture my love of math. My coaches were supportive, my piano teacher was supportive, my friends were supportive, and people from the community were supportive. People around town would often ask where I was going to college but not if I was going to go to college. There were definite expectations and maybe even a bit of healthy pressure to go to college from the various people around me.

Looking back, I didn't prepare to go to college as well as I could have. Although I did quite well on both the ACT and the SAT exams, I probably could have done better had I actually studied for those exams. But there were other preparations that were more important to me. Namely, how was I going to pay for college? I was walking past the high school counselor's office one day and he had a rack of college handouts and flyers. One of those handouts was about Air Force ROTC. I grabbed the handout and read it from front to back. I immediately thought to myself, "Hey, this just might be the way I could pay for college."

It was the spring of my junior year in high school when I applied for the Air Force ROTC scholarship. The following year I was awarded a Type I Air Force ROTC scholarship that would pay for all of my tuition and fees, and would provide a small monthly stipend. Had I not had an Air Force ROTC scholarship, I would not have been able to attend or to pay for MIT. There are so many scholarships available to students but you have to take the time to apply for them.

COLLEGE EXPERIENCE

Growing up in Kansas, I expected that I would go to Kansas State (K-State) or the University of Kansas (KU). I never expected or even considered that I might be able to get into a school like MIT. In all honesty, the thought never crossed my mind. In my junior year of high school, I took the ACT, did fairly well and I had selected to have my test scores published. Shortly thereafter I started to receive letters and postcards from top schools like Princeton, Harvard, MIT, and Stanford asking me to consider their respective schools. I thought, "Hmmm...I must have done fairly well for these schools to show interest."

Only after MIT showed interest in me did I start considering MIT as a possibility. I was very interested in MIT because I wanted to pursue engineering and MIT is one of the best engineering schools in the world. I also wanted to pursue a major that would enable me to become a software engineer. At MIT, the Civil Engineering Department offered an information technology track that specialized in software algorithms, structures, and offered courses in both C and C++. This is the reason why I chose to study civil engineering at MIT. I was also keenly interested in physics and calculus so it was a perfect fit for me.

The hardest part about my college experience was learning how to study and pursue my studies

differently than the way I did in high school. I studied alone because I felt like all of my peers were much more prepared to go to MIT than I was. I graduated from a high school that didn't offer physics, calculus, or chemistry and yet I was taking all three of those courses my first semester at MIT. Therefore, I ended up studying alone and I struggled. I reached a point somewhere in the fall of my freshman year thinking, "What have I done and what have I gotten myself into?" I kept thinking that if I could just make it through the first semester that I would quit, transfer to another school, and life would be smooth sailing. But then I would tell myself, "No, you were accepted to MIT. You were accepted so there is a reason you are here and there is a reason to press on." I had to really coach myself with positive thoughts and I spent long hours on the phone with my sister who gave me positive reinforcement.

As the semester continued on, I felt better about my studies, about my results, about my problem sets, and about my tests. I passed all of my courses the first semester and I recall thinking, "Yes, I can do this! I was meant to go to MIT!" I didn't have any study groups which made my experience a bit more difficult than it should have been. I only requested a tutor one time and that was during the fall semester of my freshman year when I was taking Physics I. That tutor helped me tremendously and she is probably the reason why I passed physics that semester. If I could change one thing about my college experience, it is that I should have requested a tutor in all of my classes, especially for the fall semester of my freshman year, and I should have done it very early on in the semester. Never be afraid to ask for a little help. It makes life so much easier when you do.

REFLECTION

The value of the college experience can never be underestimated. You probably learn more about yourself and others - which encompasses a wide range of backgrounds, characteristics, sexual orientation, culture, diversity, and inclusion - than you do about academics. It is estimated that Latinos will make up nearly a quarter of the U.S. population by the year 2050. Today's Latino youth will become America's future doctors, lawyers, engineers, teachers, nurses, planners, and consultants. It is truly important as a Latino to recognize that America's future economic success relies heavily on the Latino population and their education. Recognizing that today's Latino youth have the ability to greatly shape our nation and the future well-being of our country, it is imperative to not only encourage Latinos to go to college but to empower them to be successful.

The advice I would offer to young Latinos today would be to stay in school, study hard, make good grades, stay out of trouble, and understand that the personal decisions you make today can have long-lasting impacts. I would also strongly advise them to consider getting a college education, even if they are the first generation of children in their family to do so. Never underestimate yourself and your ability to succeed in life. I personally went to school at MIT with Latinos who had family members who were gang members, who sold drugs, and who were serving prison terms. They both came from the same environment but the ones who made it to MIT simply chose to make better personal decisions for themselves.

I personally want to thank my fellow MIT Latino alumni who consistently demonstrated perseverance and who provided guidance and support while I was at MIT. They have helped me embrace my identity, culture, and ethnicity. I also want to thank my family and friends without whom I would not be the person I am today.

JULIA RUIZ



TODAY

I graduated from MIT in 1999 with a Bachelor's of Science in Biology and a minor in biomedical engineering. I then worked at Los Alamos National Laboratory as a research assistant for about three years before I completed all my pre-med requirements . I worked on many different projects, but my main focus was working on a handheld biosensor. I graduated from Texas A&M Health Science Center in 2007 with a doctorate in medicine, completed a pediatric residency in 2010, and then finally completed my pediatric fellowship in critical care medicine in 2013. Yes, I have graduated five times if you include high school. I still can't believe I have completed over fourteen years of higher education!

After all is said and done, I now work as a pediatric critical care physician at a children's hospital in Temple, Texas. Now that I am here, I can't imagine doing anything else. I love what I do and it was worth all the time of being in school. As stressful as being a physician can be, saving a life has been the most rewarding professional experience in my life.

The accomplishment that I am most proud of is graduating from MIT because it was the hardest road for me to overcome considering where I started. I experienced academic obstacles in medical school but MIT was harder for me. I went there with a lot of people who doubted that I could make it. At times this made me doubt myself but because of my "never say no attitude," I graduated. Once I did that I knew there would never be a challenge that I could not overcome.

GROWING UP

I grew in Canutillo, TX, a small town outside of El Paso. Back then Canutillo was considered one of the poorest schools in El Paso county. The one advantage that we had compared to other schools was the number of good teachers we had - we were such a small school district that a lot of teachers liked working there. My hometown consisted of one main road and just like a typical small town, there was a Sonic at the end of the main road and it was the social hot spot. There wasn't very much to do in town, and if you did not have a car to get you into El Paso, you were pretty much stuck at home.

From an early point in my life I had a love of learning, especially math. My dad was the math nerd in my family and he always challenged us with games like estimating the grocery bill before we got to the checkout line. He also just enjoyed going over multiplication tables with me. I went on to be in any math competition I could participate in. Then in the eighth grade I had two eye-opening experiences. The first was seeing my brother not get to be the valedictorian because of the crazy politics of going to a small school, and then seeing him not get to go to his dream college because my parents couldn't afford it. I also got my first taste of college that summer by participating in an accelerated math course in Dallas, TX. It was absolutely amazing.

After that I was determined to go to college and nothing was going to stop me. The minute I started high school, I quickly understood that there would be a lot of challenges getting into college. The first challenge was getting the school to let me take two math classes at a time. Since I had already taken Algebra II during the summer I wanted to take both Honors Algebra II and Honors Geometry together. This was the first time that I heard the most frustrating words in my life: "You can't do that. No one is smart enough to take two honors math courses and biology at the same time and pass."

Needless to say, I was frustrated but my mother came and fought for me and we were able to compromise with the school. They allowed me to take both math classes but only one could be honors. By the end of the fall semester, my geometry teacher had me transferred to the honors course. The counselor was blown away and could not believe that I was able to accomplish this. When I finally got her to believe in me, she left so I had to start all over again with the new counselor.

During pretty much all of high school I was treated differently because people did not understand why I tried so hard. This did not only come from my peers but also from some of my teachers and my counselors. I remember the first time I got a letter from MIT, I went to show it to my counselor and she just looked at me like, "Are you serious?"

I was so heartbroken but fortunately for me my mom was there to pick up the pieces and told me there was never any harm in dreaming. It made me feel better, but again it was just the beginning of the struggles. At that point I was not worried about academics because, despite my horrible counselors, I had a plan. I had proved to them that I could pretty much handle any class in high school so they let me make my own schedule and no longer told me what I could and could not do.

The next part I was worried about was financial aid. When I spoke to my parents about it, I realized that they did not understand financial aid at all. I again saw this big obstacle in front of me. By this time I was in my senior year and I had applied to MIT's early action program. I had to figure out how I was going to pay for this school without any guidance from my counselors. Anytime I asked them about financial aid for schools like MIT or Harvard they said not to bother with those schools because kids from our school don't go there. I was again hearing the words, "You can't do this." I decided I would search for the information on my own.

Fortunately, by that point, I had signed up for a program that let me take classes at a major university, so I went to speak to their financial aid people. I attended every single financial aid seminar they offered anywhere. And finally I applied to every single scholarship that I qualified for which was well over thirty scholarships. At this point I had taken care of academics, done everything I could think of to get financial aid, and had surrounded myself with friends that supported me. Then came the biggest obstacle I had to face - my father. Unlike my mother who was dreamer, he was the pessimist in my life. He could not understand why I wanted to leave home, my safety net. I again heard the unbearable words, "You can not do this. You are a poor Mexican girl who wants to live in a world that is not made for you."

As he told me those words, I could feel my life crumbling around me, but then I found that inner strength to keep that chin up and prove him wrong. Looking back now, I realize that my father was just scared for me and didn't want me to be hurt. He didn't want me to fail. He handled things this way because he was raised to believe in limits. So I was fortunate to have both the dreamer and the realist (which is what my dad called himself) and both are the reason that I am who I am today.

FAMILY

My mom was born in Juarez, Mexico and came to the United State when she was five years old. My grandfather worked hard in the fields in California and Texas, and worked to get U.S. citizenship. My father was born in Anthony, TX, where my grandfather worked for the railroad. Neither of my grandparents spoke English well, so my parents taught us Spanish. I thank God everyday that I am bilingual.

Both of my parents worked picking onions as soon as they could, so growing up they were very protective of us. They would not let us work very much as school was important to them.

My mom is amazing - she was the first in her family to go to college and she attended Texas Woman's University. She had to leave school because she became pregnant with my sister and neither of my parents was comfortable raising their kids in the big city of Dallas, TX. Even though she worked full-time and went to school, she went on to earn her bachelor's degree and a master's degree as well.

My mom went to school during a time when women were supposed to stay home and take care of their family. She broke that mold and it was not easy. She got a lot of slack from my grandparents on both sides. I guess that's why growing up my grandfather would always tell me that I needed to spend more time in the kitchen instead of playing sports or reading books. My dad also went to college for two years but then decided it was not what he wanted so he never completed his degree. My mom worked as a bilingual teacher for the migrant kids and my dad was a teacher's aide at different grade levels, and of course he was always known for his math skills.

MY MOM HAS ALWAYS
SUPPORTED ME GOING
TO COLLEGE. SHE
HAS BEEN MY ROCK
THROUGH ALL OF IT.

My mom has always supported me going to college. She has been my rock through all of it. My dad supported me in a different way. He would always tell me, "I don't understand why you want to learn so much but I know you're going to do it anyway." My parents only visited MIT twice. The first time was to drop me off and believe it or not my dad dropped me off by myself. As soon as he saw the tears on my face, he told me I was going to have to stay because he had spent too much money to just take me back.

The second time was to pick me up. This time, I got to show them the city and all the places I had been to. It was great to see how proud my family was of me. Neither of my parents knew much about MIT. I always sent them school shirts, caps, and buttons. My dad wore them but never really thought much of it until one of his teacher friends asked him who he knew at MIT. My dad looked at her and said my daughter goes to MIT. His friend could not believe it. She said, "I thought she graduated from Canutillo?" And he said, "yes, she did." "Well, how did she get in?" My dad looked at her confused and said, "Well, she applied and they said yes." His friend went on to explain to him what a prestigious school MIT was and how hard it was to get in there. After that, my dad always wore his MIT hat. When my mom told me that story, I couldn't stop laughing. Hadn't I already told him all of this?

I also have three brothers and two sisters and being the second youngest, I could never make all of my own decisions. They had my high school schedule planned out for me. They helped me to prepare for college and supported me the whole way.

COLLEGE EXPERIENCE

I basically chose MIT because I liked math and my dream was to become a genetic engineer. When I graduated from high school, the movie Jurassic Park had recently just come out. I thought I'd like the work. I also thought that I would become a doctor. Once I got to MIT, I decided to major in biology and minor in biomedical engineering, so I could get the best of both worlds.

My two biggest challenges at MIT were the academics and being homesick. I had never been challenged so much intellectually. It took a lot of adjustments and learning how to study. The amount of material that we learned was overwhelming but I had a good group of friends and we supported each other and managed to make it through. The weird part is our majors were all different, so after freshmen year we could not help each other with our homework. We just supported each other. We failed and succeeded together.

Never in my life did I think I was going to be so homesick. I knew we were a close family but I missed them like crazy. The first year was the roughest - I called them all the time and it was pretty expensive. Most of my paycheck from working went to paying my phone bill, but in the end, it was worth it. It got easier as time passed. The biggest reason was my college family - I had the two best roommates (friends) that made me feel at home. I had my volleyball family and we went on lots of adventures across New England. Last but not least, I had my LUCHA family. The LUCHA group was like being around my brothers and sisters all the time. They drove me crazy but when we needed each other we were there. We tutored each other and supported each other. It was such a great club. I am still close to many of people that I met through that club

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REFLECTION AND MESSAGE

There are still mornings that I wake up and I just want to pinch myself because I am truly living my dream. I have a great family, job, and house. I can't believe how far I have come. I joke around with my mom telling her that it was my stubbornness that has gotten me to where I am now. Only you can set that limit. If one door closes, go find the open one and walk through there. Life is full of challenges and failures, but I am a firm believer that without failures you can not succeed and it is those failures that help push you to your limit and make success even sweeter. We have all failed. It may not seem that way but everybody has their failures - we just don't share them. You will meet a lot of challenges and obstacles and you will fall but my recommendation to you is get up, spread those wings and fly!!!! Si se puede!!!

Right now you guys are living through a very hateful world that not only is looking at you as a person but also at the color of your skin. I think in a way the world has always been this way, it's just more exaggerated now. Don't let it get in your way. And don't forget your roots; be proud of them.

I would like to thank my mom and dad, my brothers and sisters, my husband, my children, my besties from college, my volleyball family, and my LUCHA family. Without their support and love, I would not be where I am now. I love you guys and look forward to growing old together and enjoying many adventures to come.

FRANCES M.
PINEDO



TODAY

I graduated from the Massachusetts Institute of Technology (MIT) in 1994 with a B.S. degree in Management Science/Operations Research and a minor in Latin American studies and also achieved a Professional Certification in Innovation and Entrepreneurship from Stanford University. Over the last twenty years, I've worked in the financial services industry and in startup companies, primarily within credit cards, prepaid and gift cards, and mobile banking across many diverse areas including risk management, audit, compliance, product management, project management, customer service, and other operations areas.

As part of my career, I have been excited to build companies from the ground up, in one case taking the company from early inception to a public company listed on the NASDAQ, and in another case, planting the seed in over thirteen countries by understanding the regulatory, operational, and business environments in these regions and subsequently rolling out products and services in these geographies.

Additionally, I have ventured into the restaurant, ranching, construction, consulting, and fashion sectors. I have been fortunate to travel to more than fourteen countries and varied regions throughout the world as part of my job and on a personal basis, opening my eyes to a diversity of cultures and enriching my life through these encounters. None of this would have happened without the education MIT provided me, much of which was focused on the STEM field.

PERSONAL STORY, FAMILY, AND PATH TO COLLEGE

I grew up in Soledad, California, a small town located on the central coast and immersed within the Salinas Valley. The setting for many of John Steinbeck's novels, this was a farm working community, the "salad bowl" of this country. Both of my parents had to forego their dreams in order to support the family and push us along. My father had been a key member of the force to eradicate malaria in Mexico and was also a professional musician signed up with several record labels. My mother was a teacher and school principal in Mexico, a very gifted woman and rising star, a progressive career woman ahead of her time and a descendant of the founding family of her town.

Both had great ambitions when they came to this country over fifty years ago. Lack of a good network, English language barriers, and the necessity to feed the family first led them to the fields. What was supposed to be a temporary job turned into seasonal agricultural work for the following forty years. Off-season we would head to Mexico so that my father could pursue his musical career as he brought his new compositions to the recording studios and toured radio stations promoting his music.

While we traveled with him part-time on his tours, my mother also placed us in school in Villa



Guerrero, Jalisco, their native town. Now I realize how fortunate we were to receive this dual education, bilingualism, and biculturalism. While English initially was not my forté, I was far excelling in math, science, geography, and other subjects when we came back to the U.S. Eventually, I caught up on this other subject.

Out of this experience and through my parents' perseverance and dreams, we learned to work hard and reach for the stars and beyond. Seeing their enormous efforts and risk-taking in pushing the family ahead gave their children the aspiration to greatness. My parents have always been my heroes for instilling hard work, determination, and vision, whether they persisted in the agricultural fields of the Salinas Valley or in the recording studios of Mexico City. As I traversed through life, I subsequently learned the value of these incredible life experiences.

THE YO PUEDO
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TO COLLEGE.

COMMUNITY

My parents had the best hopes for their children. However, they were unfamiliar with the educational system in this country. They knew that an education was important and would open doors, so they encouraged us to excel in school. It wasn't always rosy. As I struggled with the English language, I was placed in reading lab for remedial students in the sixth grade. By the eighth grade, I had far exceeded my math curriculum, and the math instructor, Mr. Gwynn, agreed to teach me algebra on the side - this was the first algebra course ever taught in the school. I entered high school ahead of my classmates in math, and that gave me the desire and confidence to excel in other areas. Along the way, there were angels who took notice and encouraged me to apply to college.

The Migrant Program at the school and the county were incredible in guiding me through the college process. They sponsored the Yo Puedo Program, a six-week program located at UC Santa Cruz. It was a challenge to convince my parents to allow me to go, and they did so with the condition that both my older sister and cousin also attend so that we could keep each other company and watch over one another. Needless to say, my mother played a major role in influencing my father on the benefits arising from these educational opportunities. This program was the first to open my eyes to the possibility of going to college. The program focused on leadership skills, creative writing, and the arts. I came back to my high school a transformed young lady with the thought of going to college as one of my future possibilities.

Another transformational event was when Bill Deeb (a wonderful mentor and one of my heroes), a school administrator, pulled me out of an accounting class in my sophomore year, and he excitedly informed me that with my grades and curriculum, I had a great chance of being accepted to Williams

College. When I asked him about the college, he informed me it was one of the best schools in the country, located on the East Coast, and with a cost of over \$20,000 to attend at the time. I responded by informing him that my parents together earned less than this amount working long hours, so this was impossible to pay. He indicated I could likely have all expenses paid if I continued excelling.

I was simultaneously confused and incredulous when he poured all of this wonderful information upon me. I had no idea what Williams College was at the time, but this conversation really boosted my confidence and desire to aspire for even grander goals. I eventually discovered MIT. I remember sitting at the kitchen table and had a conversation with my parents about applying to the M.I.T.E.S. program at MIT the summer after my junior year. My mother was extremely supportive only if I had my father's blessing. I told my father that this was a great opportunity in which only fifty students would be accepted nationally to one of the best universities in the world, but that if he didn't approve my attending this incredible program, I wouldn't even attempt to apply.

To my joy and surprise, he responded that he was not going to be the person who would stop me, and if this door opened, then I had his full support. I applied and was accepted! The M.I.T.E.S. program was a first for me in many respects - first time on an airplane, first time to travel to the east coast, first time to experience humidity, first time exposed to the enormity of STEM courses, and first time living with a very diverse group of students. What an amazing experience!! I had the opportunity to participate in a bridge-building contest, and my team broke the all-time record for the number of pounds it could support. This was an incredible confidence-booster and validation that I could actually compete on a national level.



During my senior year, I exhausted all available math classes offered by my high school. My eldest sister, Mercedes, was attending Hartnell Community College and made the sacrifice of driving fifty miles round trip every day to take me to calculus class at the community college. I will never forget the level of support my darling sister offered me!!

It was during this time that I decided to apply to MIT, and to my dismay, there were a number of naysayers - some who smirked at the very thought that I would apply to this institution, top in the world for an engineering education. Only one person from my high school had attended MIT twenty years earlier. I ignored these negative voices, and much to my exhilaration, I was accepted to MIT - this changed my life forever. I'm eternally grateful to my parents and those community members who believed in me. These members understood the importance of engaging my parents in this quest given how tightly knit our family was and still is.

COLLEGE EXPERIENCE

I chose MIT as I had the desire to major in a technical field - math, business, architecture, civil engineering, or electrical engineering. I was a bit lost on what area to study but my strength was in math, so I figured I would explore the possibilities. I knew MIT was excellent in any of these areas. I took classes in each of these disciplines, finally landing in the management science program with a focus on operations research.

This was perfect for me given that not only did MIT establish an engineering foundation for its students, but the courses within my major also comprised of coding across multiple computer languages, behavioral sciences, marketing, economics, accounting/finance, operations management, and advanced mathematics in statistics and stochastic processes. Some of the upper division courses were actually graduate classes in mathematics, the business program, and the operations research department, taken alongside those pursuing their master's or Ph.D. My fun classes were in Latin American Studies, a minor I decided to pursue comprising of classes in linguistics, literature, political science, and archaeology.

Through grants, scholarships, loans, work-study, and eventually credit cards, I was able to pay for my education at MIT. I'm thankful for the government programs in support of education, the

multitude of private scholarships and grants, and the on-campus work opportunities that allowed for a bit of extra spending money for miscellaneous items, textbooks, and rare flights back home.

It wasn't always easy at MIT. My greatest enemy was myself, many times wondering if I belonged at the institute. However, thinking of the sacrifices my parents had made for their children was an impetus pushing me towards success. The thought of the fourteen-hour days out in the dusty fields or in the refrigerated packing sheds my parents endured for the sake of their family pushed me further along. Just when I thought I was drowning with my course load, my parents would continuously encourage me, saying "Mijita, adelante! Aunque de panzazo!!" Meaning, "Just go for it, even if you have to slide to base." This encouragement meant so much to me and kept me going.

Also, when I observed other students with similar backgrounds excelling in very difficult courses, sometimes at the top of their class, I decided I could also do it. I focused and studied extra hard to get past my uncertainties and was amazed at what I could accomplish. Not only did I learn so much across many different fields, computer languages, and cultures, but placing that extra time and effort enabled me to excel in the most difficult class, achieving that coveted success in Stochastic Processes, a graduate math class.



MIT was an amazing place with students from all over the world. To sit and chat with a descendant of bushmen, work side-by-side with colleagues from Spain or China, be in a class with a princess from Jordan, study long hours with a farmer from Tennessee, debate with a male counterpart from Pakistan, or party with Brazilian and Puerto Rican friends - it was all amazing. It's as if the United Nations had convened at MIT. The cultural experience was one of the best parts of attending college.

MIT was a boot camp, but I succeeded in walking up the stage to receive my degree in 1994. My father and sisters had the opportunity to attend, but due to work and personal constraints, my mother and brother were unable to attend graduation. To this day, I still owe them a trip to the Boston area!

REFLECTION AND MESSAGE

My parents had great aspirations for their family. Although they could not necessarily fulfill their own dreams, they persevered, worked in hard labor for over forty years, and were always grateful that they could provide for their family and for all the wonderful opportunities this country had offered. They realized that education enabled their children to live another life.

I am witness to the transformational power of an education. It gave me the confidence to dream big and to see the world. Along the way, I also unexpectedly met my husband at MIT, an intelligent, shy, handsome, hardworking guy from south Texas. Together we have been colleagues for many years, formed a beautiful family, traveled the world, and built an incredible partnership. I am eternally grateful to my parents for sacrificing their own dreams for the sake of lifting their children, for teaching us to be proud of our culture and roots, and for demonstrating that hard work and an education pays off.

It goes without saying that my siblings have been an inspiration to me as well. Each of them has wonderful unique talents across the arts, sciences, business, and sociology, to name a few. Through their work, I have grown to appreciate other non-technical areas. The five of us are about a year apart, so growing up they were my play buddies. We invented our homegrown version of golf with

cans, sticks, and tennis balls, practiced gymnastics on a broken swing set, went “ice skating” in the house (hint: baby powder all over the floor), built our very own water slide by flooding the front lawn, and played so many other creative games that we imagined while our parents worked away. We watched over each other during those long summers. These experiences were formative and contributed to our creative spirit. To this day, they are still my best friends, and I very much enjoy spending time with them, even if we’re all far apart in different parts of the country.

I am also thankful to those that selflessly gave a part of themselves to young people, planting curiosity and vision for the future. They truly paid it forward when they opened those doors, and I intend to do the same for our new youngsters. In particular, I’d like to give special thanks to Bill Deeb, Robert Gwynn, John Mahoney, Karen Steadman, Eddie Grado, M.I.T.E.S., MIT, LUCHA, la Casa Castellana, Inroads, and the Monterey County Migrant Program.

I hope that through my experience, young people begin to see the world of possibilities. Let’s always remember to thank our parents and those who’ve made a difference in our lives, be humble and confident, surround yourself with positive people, be curious and unafraid, ignore the naysayers, and proudly carry the torch for your community and those who have believed in you and sacrificed for you. Moreover, never forget where you come from as it defines who you are. As you dare to dream, have fun along the way and remember to pay it forward!!

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THE AVANZA
NETWORK

HISTORY

Avanza is a national organization founded by MIT Mexican-American alumni and friends who are dedicated to the empowerment and advancement of current and aspiring Mexican-American professionals and members of underserved populations.

Since 2011, Avanza has served as a resource for MIT Mexican-American alumni and friends to network, foster new friendships, and provide a venue to promote STEM and other careers by sharing their own experiences and path to MIT. Avanza endeavors to reinforce the need for a college education, expand the image of STEM professions as a viable option, and demonstrate the value of talent and diversity arising from Mexican-American and underserved populations.

Visit us at www.avanzanetwork.org.

MISSION

Through its grassroots efforts, the Avanza Network (“Avanza”) stimulates Mexican-Americans and underserved communities to achieve their full potential by increasing awareness of the transformational power of a college education, increasing college graduation rates for these groups, emphasizing the benefits of diverse career paths, highlighting the key benefits of STEM careers, and cultivating the group’s pipeline of talent through the professional development life cycle.

VISION

Avanza’s vision is a world where everyone reaches their full potential, a world in which a majority of Mexican-Americans have achieved a college degree, mastered STEM skills and eliminated barriers to socioeconomic advancement by contributing and leading in diverse careers, thus becoming a major force in the advancement of American society. While Avanza’s efforts are focused on improving the status quo for Mexican-Americans, we trust that other underprivileged groups will benefit in the same way.

PRINCIPLES TO LIVE BY:

BELIEVE IN YOURSELF.

BE PREPARED TO WORK HARD AND LONG FOR WHAT YOU WANT.

BE POSITIVE AND AVOID NAYSAYERS.

ASK FOR HELP WHEN YOU NEED IT.

WHEREVER YOU ARE, BUILD YOUR SUPPORT GROUP.

RESPECT YOUR ROOTS.

WHEN IT'S TIME, PAY IT FORWARD.

LET YOUR DREAMS AND YOUR WORLD EXPAND.

AND ALWAYS REMEMBER: YOU ARE THE ONLY PERSON IN THE WORLD WHO KNOWS WHAT YOU'RE PREPARED TO DO TO ACHIEVE YOUR DREAM.

QUOTES

AND SO WE CLOSE WITH FAVORITE QUOTES
THAT REPRESENT THE SPIRIT OF THIS BOOK:

"START BY DOING WHAT IS NECESSARY, THEN WHAT IS POSSIBLE, AND
SUDDENLY YOU ARE DOING THE IMPOSSIBLE."

St. Francis of Assisi

"LIFE IS NOT ABOUT HOW MANY TIMES YOU FALL DOWN. IT'S ABOUT HOW
MANY TIMES YOU GET BACK UP."

Jaime Escalante

"THE ONLY PERSON YOU WERE DESTINED TO BECOME IS THE PERSON YOU
DECIDE TO BE ."

Ralph Waldo Emerson

"THE PERSON WHO SAYS IT CANNOT BE DONE SHOULD NOT INTERRUPT THE
PERSON WHO IS DOING IT."

Chinese Proverb

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We hope you have enjoyed reading this book - and for the lucky ones, contributing to it - as much as we have enjoyed putting it all together. We know there are so many more stories to tell and this book is just the beginning!

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