

Developing my passion for informatics and mathematics has been a challenging but extremely rewarding journey. Coming from a small city in Veracruz, Mexico, there were few choices to pursue an undergraduate degree in these areas. I thought of moving to Mexico City to try to enter a university that offered a program in Computer Science (CS), but this was not possible due to economic hardship and health problems I had during that time.

I enrolled in Computer Engineering at *Tecnologico Nacional de México campus Veracruz*, located near my hometown. While I enjoyed learning how to innovate by creating technological applications, when I experienced research my career perspective changed. Under the guidance of **Dr. Rafael Rivera-Lopez**, I worked in combinatorial optimization applied to balancing complex chemical equations. The notion of proposing ideas for creating new algorithms and publishing them to the world excited me a lot. So, despite having the option of getting my degree without a thesis work due to my GPA and taking advantage of the growing market for software engineers, I decided to get more immersed into research.

To achieve this I applied and got accepted to the undergraduate thesis program offered by the *Centro de Investigacion en Matematicas (CIMAT)*, where I was fortunate to work with **Dr. Arturo Hernandez-Aguirre** in the area of computational optimization. There, I learned to think more critically, and the environment encouraged my creativity. I fell in love with my thesis project, I graduated with honors and this work was awarded the best undergraduate thesis in CS nationwide. Since CIMAT offers one of the best CS programs in Latin America, and going there in my last year of undergrad became one of the best choices of my life, I decided to enroll in the masters program. Additionally, having met excellent classmates and faculty who got their degrees abroad along with my research stay experience with **Dr. John McCall** in the UK, helped me realize that completing a PhD abroad was an attainable goal. Earning my masters degree at CIMAT made me appreciate the importance of foundational mathematics and the opportunities in following a scientific rather than technological career path.

Nevertheless, having an engineering background made me miss the applied side of algorithms in real life. From research, I expected to see publications as well as the effect of these discoveries transferred into technology, which is more common in developed countries. Unfortunately, before 2015, researchers in Mexico were not allowed to transfer technology to companies from their work at the university, arguing conflict of interests. So, it seemed to me that both, CS and engineering, were a bit disconnected and that I had to choose one over the other to continue my career. Undoubtedly I have a passion for research in academia, but to see results in practice I decided to challenge myself in the industry. There, I gained **experience in the financial and technology sectors** working in mathematical modeling, software engineering, and research & development. I recognized that leading businesses require state-of-the-art solutions to remain competitive. While working full-time, my refusal to let go of academia also led me to join *Universidad Nacional Autonoma de Mexico (UNAM)* as a teacher, where I learned that not only do I have a passion for research, but also for helping others learn as well.

With the Fulbright-Garcia Robles Fellowship, now I want to help bridge this gap by contributing to make artificial intelligence research more approachable and usable in developing

countries. I also would like to be able to give back to the US with my latino perspective and to **increase access to computer science education for historically underrepresented groups.** Also I am excited to one day have the opportunity to inspire others in my country or even in my own community after becoming the first member of my family to attain a PhD.