As a proud immigrant and member of the Hispanic community, I can relate to other underrepresented groups in STEM. I have contributed to several student associations at Carnegie Mellon University (CMU) in making visible issues concerning the Hispanic and LatinX communities across campus. This experience motivated me to volunteer within the College of Engineering to support recruiting underrepresented minority groups in the Society for Hispanic Professional Engineers (SHPE) national conference. Moreover, after experiencing the social and academic life in three different countries, I broadened my horizons concerning multiculturality in research and education. As a faculty member at Purdue University, I want to contribute to the ongoing commitment to diversity, leveraging my own diverse background.

Diversity is a source of richness for any learning environment. As such, diversity is not just limited to gender and ethnicity but also spans socioeconomic status, educational backgrounds, research interests, and life experiences. Members of a diverse community bring their own experiences and stories to the table, elevating it. Academia's primary goals of providing excellent education and producing the best-quality research are ideal opportunities to coalesce various perspectives, involving faculty members in particular. Given the ever-increasing complexity of the issues faced by our society, scientific advances rely on a varied source of solutions to address them. As research by Prof. Scott Page and other academics demonstrates, cognitive diversity is required to solve complex problems and maps onto identity diversity.

I am exceptionally devoted to cognitive diversity, including different viewpoints, skill sets, and information processing styles. After engaging in various fields, including chemical engineering, physics, astronomy, and mathematics, I appreciate the value of variety in problem-solving approaches. Therefore, I strive to improve cognitive diversity within the research group, the department, and university communities. At the research group level, I founded our weekly Journal club – a regular meeting of all members in our group, from P.I.s to undergraduate students, where we have a venue and common ground to discuss research challenges. This group is remarkably diverse in its members' gender, backgrounds, and nationalities; it is orchestrated by a Latino, with members from four different continents, and with a balanced gender ratio. As part of it, I have witnessed and benefited from the advantages of giving space to everyone willing to contribute, and consequently, I am committed to creating an even more diverse research group. I have represented the Chemical Engineering Department at the department level in the Institute for Operations Research and Management Sciences (INFORMS) CMU student chapter since 2017. There, I served as founder and organizer of a student-led conference, YinzOR, which brought together optimization practitioners and scholars across the Pittsburgh area, creating a professional INFORMS chapter by alums from our department three years after the first YinzOR. I have also been the liaison of the CMU Quantum Computing Group at the Pittsburgh Quantum Institute since the group's founding, acknowledging the strength that comes from togetherness, particularly in a field that belongs to the intersection of several areas, such as Quantum Computing.

Although I have collaborated towards creating a more diverse environment as a student, I am convinced that the positive effects of these efforts will magnify as a faculty member. I will use these experiences, along with my multidisciplinary background, to better support a diverse student body. Since students learn concepts in diverse ways, I will combine my cross-cutting knowledge with other faculty members to present a multi-angle view of engineering, helping students become more adept professionals. I already have experience with this via the course I designed and co-taught on Quantum Integer Programming, an interdisciplinary course for students from various departments, such as chemical engineering, computer science, and finance. Building upon my experiences as a faculty member, I want to foster an environment that manifests inclusivity in its fullest form. I plan to align these programmatic initiatives with those already underway at Purdue Davidson School of Chemical Engineering.

Besides a robust education, I believe any department benefits from enabling all students to be supported by and supporting members of society. This support includes endorsing students' extracurricular interests. Student professional societies and various interest groups encourage a deep sense of community and reinforce students' interest in learning. I am deeply committed to keeping up diversity efforts as my professional career progresses by actively recruiting, including, supporting, and engaging members of all backgrounds and identities into the University. I look forward to working with a department that promotes these values.