

Getting a great education was a vital concept for my family because my grandparents and mother came from Mexico and were not fortunate to have the opportunity to get a good education. As a result, applying and paying for college were hurdles that I had to overcome alone. Even with these obstacles, I had prevailed and was the first in my family to earn a college degree. While visiting my community, I had experienced that high school students were having similar issues about college. With the students that were considering science and engineering, they did not have role models in the community to expose the students to these fields that they wanted to learn. Therefore, my personal objectives in life would be to give back to the Hispanic community and help lead students to success while I am in academia.

One example of giving back to the Hispanic community was during my undergraduate years when I was giving cube satellite presentations to middle and high school students. In my role I would teach the students about cube satellites and the roles and opportunities for mechanical, aerospace, and electrical engineers in satellite design. Overall, the students liked the presentations and several are now considering engineering as a possible career. I also started to create follow up presentations/workshops that would give the students more insight and skills of what engineers would do in satellite design. The schools where I taught did not have teachers who could teach these materials, and my talks opened new opportunities for the students. Currently, I am working on developing an introduction to programming using Python as well as assembling a 3D printed cube satellite. Currently, I am working with Society of Hispanic Professional Engineers (SHPE) Rice to offer Python workshops to the schools in Houston while the other workshops will be used for Noche de Ciencias. Noche de Ciencias is an event that

SHPE hosts at several schools and the goal is to motivate the students into pursuing science and engineering as a career by participating in workshops, competitions, and presentations.

After graduate school, as a professor, I plan to serve as the academic advisor for the local SHPE chapter at my university. As the academic advisor, I would mentor several students and expose them to new opportunities, such as finding internships. For teaching, I would add an extra segment in my classes that relates how the subject can be applied to different fields. This section would have a project component where the students would have the opportunity to show how the subject can be utilized to aid other fields. For instance, if I was teaching a signal processing class, then a typical project would show how image processing can aid the medical field. In addition, I would communicate with the local professional society student chapters, such as IEEE, Eta Kappa Nu, and SHPE to develop supplemental workshops, presentations, or review sessions to benefit the students. In addition, I would release these workshops, presentations, and notes to OpenStax offering other students the opportunity to learn from these resources.

Throughout my life I had thought that I was alone with this issues, yet I had realize that there are others who face the same challenges. While I continue to grasp new concepts, I would like to distribute my experiences for others to learn. As a result, I am committed to acting as a mentor and creating different engineering workshops to help lead those individuals to success in an engineering degree, which will not only elevate their individual situations but the community as a whole.