Juan Maldonado
IDEA’s Spotlight Engineer

Quick Facts

Grade: 4th Year
Major: Mechanical Engineering
Outside Interests: Long-distance running, science fiction books, skateboarding, and salsa dancing

Questions

When did you know you wanted to be an engineer?
One of the moments that inspired me to pursue engineering was when I watched SpaceX land the first stage of their Falcon 9 rocket for the first time. I had been following SpaceX for a while and had watched many of their landing attempts, all of which had ended in fiery failures. This time, however, they managed to succeed! I remember being mesmerized by the way such a huge structure could maneuver through the sky and land so gracefully on such a tiny target. Through my jumping up and down as me and my siblings celebrated the landing, I remember thinking, “I want to do something like that.”

What person, in your academic career, has impacted you the most?
One of the most impactful people in my academic career has been professor Nicholas Boechler. I met Professor Boechler when I took MAE 131B with him last spring quarter and had the opportunity to do research in his lab over the summer. Professor Boechler was not only a great professor but he was also an invaluable mentor who helped me to have a very rewarding research experience and to grow as an engineer. He was always available to help with my research but also gave me the freedom and responsibility to be in charge of my own project along with my lab partner and to really experience what research was like. He was also extremely helpful in my applying to graduate school and helped me to improve my application essays and talk through and plan my career goals.

Why did you choose the UCSD program as opposed to others?
I chose UCSD because I knew that it had a well-regarded engineering program and also
because my friend, who was in the mechanical engineering program, had told me good things about the school. I immediately knew that I wanted to go here when I got to participate in the Overnight Program as a high school senior. Being able to follow my host throughout one of his normal school days and learn about his exciting engineering projects and classes he was taking convinced me that UCSD is where I wanted to go.

**What do you love so far about engineering here at UCSD?**

I love the quality of the classes and the wide breadth of concepts that I get to learn. Every time that I finish a class, I feel like I’ve added a whole bunch of tools to my engineering toolbox, tools which I then get to use through engineering clubs and hands-on class projects. I really enjoy the experience of being able to learn from top-notch professors and then having the resources available to actually apply those skills. I also feel like there’s a lot of support from the faculty and engineering staff who are always eager to help you with whatever project you’re working on and teach you new skills.

**What are you interested in as a potential career?**

After I graduate, I’m going to be pursuing a PhD in Aeronautics and Astronautics at Purdue University. Through my time at Purdue, I hope to develop my skills as an engineer and to focus my efforts in the field that I’m most passionate about, which is space technology! After I graduate I hope to lead my own research project at a space technology company where I will be able to help develop the technology needed to make manned missions to other planets possible. I’m also interested in applying to be an astronaut and who knows, maybe even going to the moon!

**What activities are you participating in now as a UCSD college student and why those activities?**
This year, I was part of the Rocket Propulsion Laboratory (RPL) where I served as Vice President of Recruitment and worked on the Propulsion team. I chose this club because I felt that it gave me the opportunity to apply the theory I had learned in my classes to an actual engineering project while still being geared towards what I wanted to do in the future. I also had a lot of fun going to the workdays and enjoyed hanging out with the people on my team and talking about space things with them! I was also involved in research in Professor Boechler’s lab where I helped develop a low power optical system that was able to create a moving interference pattern at a prescribed phase velocity. I chose this activity because I wanted to see what research was like, and I’m glad I did because I ended up loving it and decided to go to grad school because of it!