Works Accomplished

I have worked on many projects during my past years at UCSD. Things I am proud of accomplishing include, circuit design labs. We theorized, analyzed, and tested circuits in some of my classes. One of these circuits we did was a wien bridge oscillator. We used nyquist plots of the loop gains to understand the properties of the circuit. I had to do hand calculations to test for the circuit behavior, simulated the circuit on LTSpice to confirm our findings, and then finally build the circuit to prove its functionality. I have the LAB documented in this link below.

Link - https://docs.google.com/document/d/1MdCdkmoECB8pwittoMBy0jb0bbmOhkJ3rIUcY0UwHw4/edit?usp=sharing

Another work I am proud of accomplishing is being able to create a full-stack website using JavaScript, HTML, CSS, Python, and MySQL. I learned how to use Python as a backend programming language as well as routing and connecting two different coding languages. I also persisted data as well as using restAPI to develop my web application

Link - https://github.com/Vnz01/Projects.git

The last piece of work I am proud to accomplish is learning is to design a light-detecting robot, to follow a line. We designed code using Arduino to detect what our robot sees through photoresistors in which light would reflect off the black tape and thus increasing resistance. Then with these values, we would receive we use Arduino to calculate and change its trajectory. We built this robot using 3D printers, Arduino shields, photoresistors, and breadboards. When working up to this project we learned how to use EAGLECAD to create a PCB design using schematics.

Link - https://ece5anchor.netlify.app/

Currently, I am working on KiCAD to learn and design a microcontroller for motors. I am working on getting to manufacture a real PCB board that I designed.