Vin Shin

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Education

University of California, Santa Barbara June 2028
B.S. Electrical Engineering *GPA: 4.00*

Coursework

Courses: Mechanics, Electricity & Magnetism, Linear Algebra, Differential Equations, Vector Calculus, Fundamentals of Logic Design, Intermediate C++ Programming

Technical Skills

Technologies: CAD (Inventor, SolidWorks, Fusion), PCB Layout Design (KiCAD, Fusion), Version control (Git), STM32
Tools: Soldering & PCB assembly, 3D Printing (FDM, SLA), Laser-Cutting
Languages: Python, C/C++, Java, MATLAB, LaTeX
Libraries: pandas, NumPy, SciPy, Matplotlib

Professional Experience

Engineering Intern | **Arcadia Tractor Corporation** | San Jose, CA Nov. 2022 - Jan. 2024

- Improved golf-ball collection by designing and constructing a compact hopper with Fusion360 and power-tools.
- Developed an automatic recharging circuit independent of tractor communication, using KiCAD, microcontroller, and a relay based linear actuator.
- Prototyped ball-deflectors in Fusion360 for the front bumper of vehicle, reducing amount of crushed golf-balls.
- Monitored data metrics of prototype tractor through ROS, Python, and Google Sheets.

Projects

Sensor Network Modules | *UCSB Gaucho Racing* Dec. 2024

- Designed and manufactured sensor network that captures data metrics of GR25, Gaucho Racing's 2025 electric car for the Formula SAE Electric competition.
- Designed 2 unique sensor PCBs using a VL53L0X, STM32G4, Bosch IMU323, TE 4525DO, voltage regulators, and MCP2542FD for enabling ride-height and accelerometer data in various chassis nodes.
- Made firmware to enable fast sampling rates and sending data to a CAN bus.
- Created 5 unique enclosures housing sensor modules and data acquisition system with ingress protection.

Steering Wheel PCB | *UCSB Gaucho Racing* Jan. 2025

- Designed a connector PCB between a RVT50H STM32 based screen to various rotary encoders and buttons.
- Used Fusion and SolidWorks.