

Brandon Claveria

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EDUCATION

B.S., Electrical Engineering

San Jose State University, San Jose, CA,

Expected Graduation Dec 2025

GPA 3.5

EXPERIENCE

Electrical Systems Lead, SJSU Robotics URC Team

Sep 2022 - Oct 2023

- Updated power and CAN BUS to be distributed to multiple parts of a mars rover using a single cable capable of delivering up to 40V at 5A
- Oversaw and provided training for a team of ten engineers for all stages of design and encouraged iterations based on observations improving longevity at URC
- Implemented a modular mode of changing microcontrollers utilizing the M.2 card edge connector to further lower cost of production

PROJECT EXPERIENCE

USB Hub Daughter Board

Oct 2023 - Jan 2024

- Designed a 4-layer PCB to interface between a USB Hub and multi-format controller for USB 2.0 and 3.0
- Ensured length-matching and controlled impedance for high-speed signals to increase signal integrity
- Assembled and validated design for communication over USB

Drive System Controller, SJSU Robotics

Nov 2022 - Oct 2023

- Devised PCB in collaboration with two different teams to achieve desired functionality with controls and mechanical systems
- Implemented a fail-safe operating a relay for when rover loses connection to mission controls
- Verified CAN BUS, I2C, UART using a logic analyzer to determine sources of error
- Created documentation to outline key design aspects and considerations

SJSU College of Engineering Badge

Dec 2023 - Jan 2024

- Created credit card-sized PCB to showcase Spartan pride and allow end users to develop with
- Integrated RP2040 Microcontroller with IMU, speaker, RGB LEDs, and breakouts
- Manage documentation and distribution of badges among other Engineering students

Third Eye Camera

Oct 2023 - Jan 2024

- Integrated ESP32-S2 Microcontroller with OV5640 camera, battery charging
- 3D Printed enclosure designed around PCB structure connected with solder joints

SKILLS & AFFILIATIONS

Technical: 0201 SMD Soldering, Altium, LTSpice, Cadence Allegro, DC-DC Converters

Equipment: Oscilloscopes, DMMs, Logic Analyzer, Electronic Load, Network Analyzer, Function Generators

Software: C/C++, Python, Verilog, System Verilog, Matlab, Solidworks

Affiliations: SJSU Robotics Club, SHPE, IEEE, Red Cross, Sea Scouts, MESA