

# Vincent Saw

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## EDUCATION

### SAN JOSÉ STATE UNIVERSITY

**B.S., Computer Engineering** | GPA: 3.85 | President's Scholar

**EXPECTED GRADUATION:** December 2023

**Relevant Coursework:** Real-Time Embedded Systems, Advanced Algorithms & Data Structures, Operating Systems, Computer Networks, Microprocessor Design, Computer Architecture, Digital Design, Electronics for Comp. Systems

## EXPERIENCE

### SPARTAN RACING - FORMULA SAE | [GitHub Link](#)

San Jose, CA | **AUG 2019 - PRESENT**

*Software Engineering Lead & Advisor*

- Pioneered the software of the team's **first competing electric race car**, scored **1st** in the EV Endurance event
- Designed and debugged both **embedded hardware and C firmware of automotive electronics** such as the dashboard electronics, sensor-CAN module, vehicle control unit, and **battery management system**
- Lead **FMEAs, design reviews, and design presentations**, proposed subsystem concepts/designs to audiences

### SPACEX

Hawthorne, CA | **MAY 2023 - AUG 2023**

*Hardware Development Engineering Intern - [Starshield Satellite](#)*

- Designed a multi-layer **PCB** with **Xpediton** for production bring-up and functional testing of satellite hardware
- Drove hardware radiation qualification testing efforts by designing both validation PCBs and test procedures
- Lead validation and characterization effort of a passive **high-speed clock** distribution approach and developed Keysight **ADS** simulations to characterize clock behavior over multiple distribution configurations

### TESLA

Palo Alto, CA | **JAN 2022 - JAN 2023**

*Hardware Engineering Intern - Infotainment Design and Validation*

- Designed **Python** and **Linux** tools for bring-up and validation automation, which cut unit bring-up time in **half**
- Developed **embedded C firmware** for camera hardware which was utilized in a **factory** to aid production efforts
- Analyzed and debugged **oscilloscope** signals as well as software logs to **root-cause** failure patterns within **CPU, GPU, MCU, high-speed clocks, audio DSP**, etc, on factory and vehicle units to influence new **PCBA** designs
- Validated and designed **factory** hardware/firmware bring-up processes and mainline vehicle firmware changes **cross-functionally** to meet tight **production** release deadlines
- Implemented **data analysis** tools on existing test software which increased team's visibility to test data

### WESTERN DIGITAL

San Jose, CA | **JUN 2021 - AUG 2021**

*Cyber Analysis Intern*

- Improved risk management by utilizing **Python, Linux**, and **Splunk machine learning** to detect high-risk patterns

### SAN JOSÉ STATE UNIVERSITY

San Jose, CA | **SEP 2020 - MAY 2021**

*Instructional Student Assistant - Computer Engineering Dpt.*

- Lead and provided live/graded feedback to lab sections of **30+ students** for a programming class in **C** language

## PROJECTS

### THETA TAU LED (SJSU Engineering Fraternity) | [Project Link](#)

**MAR 2021 - APR 2021**

- Directed a team of **14 various engineers** as director to create, integrate, and document an **embedded systems** project to wirelessly control a custom CAD/PCB enclosed LED matrix using a custom **React Native** mobile app
- Designed **embedded C++ firmware** and Altium **PCB**, implemented **Bluetooth LE** in **React Native** and firmware

### HAPPY HOUSEHOLD (Hackathon Winner) | [Project Link](#)

**JAN 2021**

- Designed an **IoT embedded system** and **Node.js/Discord.js** bot in 48 hours to improve errand management
- Developed a **C** driver for an **LCD** and **ESP WiFi** module which initiates an HTTP POST to a Discord webhook

## SKILLS

Programming: **C, C++, Python, Java, JavaScript, C#, ARM Assembly, Verilog**

Software: **Git, Linux, Altium Designer, Siemens Xpediton, LTSpice, Keysight ADS, Splunk, Android Studio**

Hardware: **Embedded Systems, Circuit Analysis, Soldering, Oscilloscope, Spectrum Analyzer, CAN, I<sup>2</sup>C, SPI, UART**

Other: **Jira, Confluence, Project Management, Design Reviews, Mentorship, Data Analysis**