Vincent Saw

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EDUCATION

SAN JOSÉ STATE UNIVERSITY **EXPECTED GRADUATION:** December 2023

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

Coursework: Real-Time Embedded Systems, Data Structures & Algorithms, Object-Oriented Design, 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 team's **first electric race car** in FSAE competition, placed **1st** in EV Endurance and **top 10** overall
- Designed and debugged both **embedded hardware and C firmware of automotive electronics** such as the dashboard, sensor-CAN module, ECU, **battery management system**, each accompanied with **design reviews**
- Led a distributed **battery management system** senior design project, resulting in bring-up success of custom **PCB designs/assemblies** plus **C firmware** for 4-layer master and 2-layer slave **PCBA**s that measured **Li-ion** cells

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

*Hardware Development Engineering Intern - **Starshield Satellite*** 🔗

- Designed a multi-layer **PCB** with **Xpedition** for production bring-up and functional testing of satellite hardware
- Drove hardware radiation qualification testing efforts by designing both validation PCBs and test procedures
- Led 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, cut unit software bring-up time by 50%
- Developed **embedded C firmware** for camera hardware which was utilized in a **factory** to aid production efforts
- Analyzed and debugged **oscilloscope** signals and software logs to **root-cause** failure patterns within **CPU**, **GPU**, **MCU, high-speed clocks**, **power circuits**, **audio DSP**, on factory and vehicle units to influence **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.

- Led 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 **14 engineers** in a project to control a CAD-enclosed LED matrix with a custom **React Native** mobile app
- Designed **embedded C++ firmware**, Altium **PCB,** implemented **Bluetooth LE** in firmware and **React Native**

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, Embedded C, C++, Python, Java, JavaScript, C#, ARM Assembly, Verilog, RTOS, Firmware Design**
Software: **Git, Linux, Altium Designer, Siemens Xpedition, LTSpice, Keysight ADS, Splunk, Android Studio**
Hardware: **PCB Design, Circuit Analysis, Soldering, Oscilloscope, Spectrum Analyzer, CAN, I^2C, SPI, UART**
Other: **Jira, Confluence**, **Project Management, Design Reviews, Mentorship, Data Analysis**