
EMPLOYMENT & PROFESSIONAL EXPERIENCE

Software Engineer 2	Harley-Davidson	Jan 2022 - Present
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- Developed optimized cooling loop control algorithms in C using lookup tables that **reduced EV charging times by 25%. 104 Minutes -> 78 Minutes**
- Developed sensor offset nulling module which **removes up to 10v of sensor error** and has built in fault detection
- Developed **rate of charge calculation** and broadcasted onto the instrument via CAN. A critical feature for customers and a feature used internally to verify and debug charging issues.
- Resolved and **eliminated 50+ compiler warnings and hundreds of MISRA C coding standard violations** from our code base ensuring code safety and quality.
- Developed advanced fault detection algorithms such as identifying half cycle operation in a power factor correction (PFC) circuit
- System on Chip throughput analysis to identify bottlenecks within the code that caused overrun errors using iSystem. I **removed certain blocking calls and reduced throughput by 40% (16ns -> 9ns)**
- Developed data binning feature which stores and **monitors all charger activity for the life of the vehicle**

Hackathon First Place Winner	Hacker Dojo	August 2024
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- Lead a team of 5 engineers to develop a full stack application for recreational equipment rentals within one weekend
- Developed the backend routing of users and listings using Prisma and MongoDB
- Developed front end categories menu along with the ability to create and list items
- Tech Stack includes: Next.js, React, Tailwind CSS, Prisma, and MongoDB
- Our startup idea and implementation was awarded first place

EDUCATION

San Jose, California	San Jose State University	June 2024 – Present
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Master of Science in Machine Learning and AI (current student)

Milwaukee, Wisconsin	University of Wisconsin- Milwaukee	June 2018 – Dec 2021
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Bachelor of Science in Electrical Engineering

TECHNICAL EXPERIENCE

Personal Projects (ALL projects go in-depth on Max-Sorin.com with code uploaded to GitHub)

- **Digital Clutch Slipper** | C++, Swift, BLE, Arduino, XCode | Developed a Bluetooth IOS app in XCode that communicates with Arduino to control and tune a clutch slipper valve from the cabin of the vehicle. Hardware and software all designed from the bottom up by me.
- **Max-Sorin.com** | HTML, CSS, JS, Django, Bootstrap | My personal website deployed with Heroku and built with Django, CSS, Bootstrap, and other modern technologies to showcase my projects in more detail
- **Capacitive Bird Bath** | C++, Arduino | Automatic birdbath that turns on via capacitive touch (from my bird)
- **YoloV8 Overwatch 2 Aim-bot** | Python, Computer Vision, Ultralytics/YoloV8 | Collected and annotated thousands of Overwatch 2 gameplay images, trained a model to recognize enemies, then wrote a program to click on enemies in game, and the model runs at over 70 frames per second!

Languages and Technologies

- Python, Typescript, C++, C, HTML, CSS, Swift/Objective C, JavaScript, MATLAB
- Django, Next.js, Tailwind CSS, React, RESTful API, Heroku, Vercel, YOLO/Ultralytics, model-based coding, CAN, ATI and Vector Tools, Git, Bluetooth low energy, ISO 26262, MISRA compliance