JASON YANG

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EXPERIENCE

3/2025 – **Undergraduate Researcher** — **Neuromorphic Computing Group**

- Working with a team of neural network researchers and embedded engineers to develop a multimodal, real-time, object detection system under low lighting conditions via a fusion of RGB and Event camera frames
- Architected a custom, power and cost optimized hardware architecture for a real-time object detection system for an autonomous vehicle. Targeted high computational efficiency under a constrained power requirement via a specialized ASIC accelerator (Coral)
- Optimized neural network models (using TensorFlow/LiteRT) through compilation and quantization for efficient hardware acceleration on a Coral Edge TPU (Coral) to maximize accelerator utilization
- Met bi-weekly to cooperate with a system architect peer and model researchers to discuss architecture and implementation, drafting comprehensive hardware architecture documentation and contributing to a technical paper submission.

9/2024 – **Robotics Software Lead** — **Slugbotics**

- Led software subteam for an underwater Remotely Operated Vehicle (ROV), overseeing the design, development, and integration of the complete control stack.
- Developed topside control station GUI using Qt to provide operators with real-time telemetry monitoring and controls.
- Designed a low-latency camera stream solution for providing real-time visual feedback essential for remote piloting
- Designed and implemented the ROV's onboard computing system for handling sensor data acquisition, motor controls, and topside communication
- Collaborated closely with mechanical and electrical subteams to integrate software for hardware components, including motors, thrusters, and various sensors

6/2023 – 8/2024 **Software Developer Lead** — **Pilotcity**

- Led a frontend development intern team to develop and maintain an interactive internship platform using VueJS.
- Developed integrations with third-party APIs (including Videoask and Miro) to embed external content and activities within the main Vue application
- Mentored a team of junior developers on good software engineering practices, such Git version control, Docker containerization, and performing code reviews
- Directly collaborated with artists and game designers to implement gamification features to increase user engagement
- Utilized various JavaScript web development frameworks, primarily VueJS

SKILLS

Computer Systems - Strong experience in interfacing with GNU/Linux and general UNIX systems. Proficient in various Linux kernel APIs and its various subsystems, such as computer networking in Linux (sockets, routing, packet filter, etc.), namespaces, etc.
Digital Hardware - Proficient in designing PCBs for high-speed logic with KiCAD. Proficient in debugging and testing with various test instruments (i.e. multimeters, oscilloscopes etc.). Also proficient in logic design with Verilog and open source synthesis tools.
Machine Learning - Proficient in training, tuning models for Computer Vision.
Frontend Development - Proficient in designing web frontends using various JS frameworks
Programming - Proficient in C/C++, as well as Go. Proficient in varous scripting languages such as Python, Javascript, Shell, etc. Familiar with Rust.

EDUCATION

9/2022 - 6/2026 **University of California, Santa Cruz** — **University**

- Pursuing a major in Computer Engineering with Digital Hardware specialization
- 3.8 GPA
- Concentrated in hardware related courses: computer architecture, circuit analysis signals and systems, and PCB design for high-speed logic. Also took courses in neural networks