George Vine

(818) 808-5435 | george@vine.life | linkedin.com/in/georgehvineiv/ | vine.life

EXPERIENCE

Lockheed Martin Advanced Development Programs — Palmdale, CA

Staff Software Engineer — *Oct 2023 – Present*
- Acted as Product Owner for 8-person Vehicle Management Systems Platform Team for a multi-billion dollar aircraft development program, responsible for over a dozen custom hardware platforms and associated FPGA IP and Board Support Packages (BSPs)
- Developed a remote firmware upload and debug system in C/C++ and Python that greatly improved developer experience and decreased firmware upload time by 90%
- Spearheaded initial bring-up of a new ARM SoC including toolchain integration with CMake, DevOps pipeline design with Jenkins and Gitlab, FPGA hardware design, and bootloader development
- Designed custom FPGA-based hardware accelerators in SystemVerilog, implementing digital communications protocols to include RS485/422, JTAG, and MIL-STD-1553
- Managed the sharing of internally developed technology with external projects and business areas, including hardware/software documentation, custom implementation design, and coordinating hardware/software deliveries in the face of competing project priorities

Senior Software Engineer — *Oct 2020 – Oct 2023*
- Served as chief software architect for a distributed, service-oriented mission planning and management application built on Java, ActiveMQ and Kubernetes
- Prepared and presented numerous software demonstrations to internal stakeholders and third-party customers resulting in research and development funding

Software Engineer — *May 2017 – Oct 2020*
- Lead a team of 4 in all activities related to software development and hardware design, from initial design to flight in under 1 year
- Implemented a custom wireless communications protocol in C/C++ using XBEE radios
- Created a native unit test system for flight control software using the Unity embedded unit test framework
- Wrote and presented proposal content focused on hardware in the loop (HWIL) and sofware in the loop (SWIL) integration and test for a multi-billion dollar aircraft procurement program

NASA Jet Propulsion Laboratory (JPL) — Pasadena, CA

Software Developer (Academic Part Time) — *May 2015 – May 2017*
- Developed and maintained a Python-based automated test framework for a mission planning tool critical to the Cassini mission at Saturn

TECHNICAL SKILLS

Languages/Libraries/Tools: C/C++, Python, Rust, SystemVerilog, NumPy, OpenCV, PyTorch, Git, JIRA, Gitlab, Vivado, Libero, Wireshark, Linux Development Environments, Eletrical Test and Measurement Tools

Subject Matter Areas: Systems Programming, Digital Design and Computer Architecture, Distributed computing, Hardware Integration, TCP/IP Networking, Machine Learning, Computer Vision

EDUCATION

Georgia Institute of Technology — Atlanta, GA
Master of Science in Computer Science, Focus in Computational Perception and Robotics — *Jan 2019 – Dec 2023*

Azusa Pacific University — Azusa, CA
Bachelor of Science in Computer Science — *Sep 2014 – May 2017*

PROJECTS

CNN-Based Address Decection (Master's Capstone) | *Python, Pytorch, NumPy* — August 2023 – December 2023
- Built and trained convolutional neural network-based pipeline for detecting, localizing, and classifying addresses from images using Pytorch
- Performed in-depth analysis of differences in system performance based on network architecture and hyperparameter tuning