JOHN PARKER

Fremont, CA

EXPERIENCE

ARCHER AVIATION, 1/2025-PRESENT

Battery Management Software Engineer, 1/2025-Present

- Designed and developed Python-based verification tests and frameworks, enabling streamlined and efficient automated requirements-based testing, regression analysis, and end-to-end traceability across the full software development lifecycle.
- Developed safety-critical embedded C software for battery microcontrollers, ensuring deterministic execution and robust hardware–software integration in compliance with DO-178C objectives.
- Collaborated with systems engineers to decompose high-level system requirements into verifiable software requirements, supporting certification efforts under DO-178C
- Contributed to the definition and documentation of streamlined development and verification processes, aligning with aerospace certification standards and improving team efficiency.
- Worked in a multi-disciplinary environment (systems, hardware, and test engineers) to integrate and verify BMS software, including real-time operating system tasks, communication interfaces (e.g., CAN, SPI), and complex driver development
- Supported Hardware-in-the-Loop (HIL) testing and system bring-up to validate embedded software against aircraft-level requirements
- Architected and delegated complex tool-development projects to junior talent, providing the technical roadmap and oversight to ensure successful team-wide adoption.

BAE SYSTEMS INC., 1/2018-1/2025

Software Engineer II, 7/2018-1/2025

- Led a specialized verification pod to execute FPGA firmware testing in strict compliance with DO-254, personally performing verification using UVM (Verilog) and QuestaSim to ensure high-fidelity simulation results, also led a systems verification team for several months.
- Served as the organizational quality gate for hardware-software maturity by leading formal verification document reviews and presiding over team-wide technical audits.
- Developed DO-178C compliant embedded software in C, balancing leadership of a systems-level verification team with direct individual contributions to the safety-critical codebase.
- Architected and executed software verification procedures using Python and MATLAB, ensuring rigorous testing of high-level system requirements and technical alignment across the engineering team.
- Maintained CCB (Configuration Control Board) responsibilities, driving governance and compliance across the SDLC while performing impact analysis on proposed software changes.
- Utilized CI/CD workflows and configuration management tools to develop flight control software, optimizing automated testing and streamlining the delivery of complex software builds.
- Enhanced requirement traceability across development branches, utilizing automation to ensure efficiency and auditability throughout the development lifecycle.
- Acted as a key driver of FAA certification readiness by authoring and refining critical technical documentation, including high-level requirements (HLR) and verification case documents.

Technical Intern II, 1/2018-7/2018

- Supported software and verification teams by conducting data analysis with Python and Matlab, streamlining verification workflows.
- Rapidly adapted to tools including PowerBi, DOORS, and Synergy to enhance project deliverables and team efficiency.
- Led an intern project focused on improving organizational knowledge sharing, delivering solutions that strengthened cross-functional communication and collaboration

BLITWISE PRODUCTIONS LLC, 3/2014-3/2018

Engine Programmer, 3/2016-4/2018

- Developed in-house game engines using C and C++, contributing to core systems with a focus on physics optimization and other performance enhancements.
- Maintained and supported the online community forums platform by debugging the web server, implementing platform updates, and resolving user issues to improve the user experience.
- Designed and developed complete video games from concept to internal deployment using proprietary in-house game engines

Software Development Intern, 3/2014-3/2016

- Led a team of other interns to create a comprehensive documentation of the company's new game engine.
- Developed a website for the company from the ground up using the LAMP stack on CentOS, providing a modern platform to improve web accessibility and user engagement.

SUNY BROOME COMMUNITY COLLEGE, 9/2017-5/2018

Residence Assistant

- Supported Residence Directors in policy enforcement for 356 students, ensuring their safety and fostering community within the campus dormitory.
- Engaged in conflict mediation during student crises, subsequently authoring detailed incident reports to assist Campus Safety and campus administration
- Organized and led diverse community-building programs, fostering inclusivity and collaboration within the residential community.

XG LLC, 03/2019-PRESENT

CEO, Founder

- Directed technical architecture and R&D strategy for integrated hardware-software systems from concept to prototype.
- Architected scalable cloud infrastructure and web services to support real-time data synchronization and system monitoring.
- Led native iOS and cross-platform mobile development for complex data visualization and device management.
- Engineered high-throughput Big Data pipelines to process and analyze large-scale telemetry and unstructured datasets.
- Designed full-stack systems to integrate external hardware peripherals with mobile and web applications.
- Conducted applied research in computer vision and signal processing to build predictive safety and monitoring models.

EDUCATION

BINGHAMTON UNIVERSITY – COMPUTER ENGINEERING, B.S.

SUNY BROOME COMMUNITY COLLEGE – ENGINEERING SCIENCE, A.S.

SKILLS

- Programming in: C, C++, Python, Objective-C, Swift
- Version control in SVN, Git, IBM Rational Synergy.
- Machine Learning (Development from scratch, or optimization)
- Research focus with PyTorch and CNN's for IoT optimization as well as data assurance.
- Digital Signal Processing
- Full stack systems administration on Unix-Based Platforms.
- Attained SAFe 5.1 Scrum Master (SSM) Certificate