Ajay Shankar Sriram

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Professional Summary

Versatile engineer with 2+ years of experience in hardware development, system validation, and troubleshooting. Skilled in cross-functional collaboration and project management, with a strong focus on continuous improvement and innovation. Passionate about contributing to sustainable energy solutions through technical expertise and effective problem-solving.

Full time Experience

AIRBUS - Qualification Engineer 07/2021 – 08/2023
Electrical & Optical System Standard Parts *Bengaluru, India*
Engineering Qualification Project Leader

- Led a cross-functional Integrated Product Team (IPT) to **develop and qualify** safety critical electromechanical components, focusing on reliability testing and failure modes analysis to ensure robust performance in aerospace applications.
- Validated and developed **qualification test plans** in collaboration with design teams and external labs, adhering to **aerospace reliability standards** (EN, ABS, DO-160). Utilized Failure Modes and Effects Analysis (**FMEA**) and Root Cause Analysis (**RCA**) to implement design improvements reducing failure rates by 20%.
- Led the regular updates of 2 Airbus Process Instruction & Airbus Process Specification maintenance documents, **addressing design queries** from the operation, to ensure alignment with evolving product specs.
- Received 2 'Spot **Awards**' for leading the development of knowledge management material that enhanced training efficiency by 25%, and for presenting critical departmental achievements to the Airbus CTO, influencing strategic decisions.

Associate Qualification Engineer

- Achieved a 99.5% first-time-right rate and 98.8% on-time delivery, delivering over 500 studies to resolve anomalies in the functional definition of the electrical wiring harness, contributing to cost savings of over €200,000 per aircraft.
- Collaborated with senior engineers in supplier audits to investigate and better understand the manufacturing processes to identify possible failure methods and ensure design for manufacturability.
- Drove the proof of concept development of multiple business-critical **process automation tools** using Python, which led to **a 20% reduction in efforts** for the team and **saving $100,000** annually.
- Classified 3,200+ standard electrical parts by assigning relevant Export Control Classification Number (**ECCN**) in compliance with **US export control laws**, ensuring regulatory compliance, and facilitating smooth global market access.

Internships

FormulaZot - F1Tenth Systems Intern 06/2024 – Current
Resilient Cyber Physical Systems Research Lab *Irvine, California*

- Assembled and debugged custom hardware components (e.g., Nvidia Jetson NX, LIDAR, power distribution PCB) to enhance system reliability for the F1Tenth autonomous racing platform.
- Conducted **root cause analysis** on Lidar failures, implemented design modifications, & improved durability by 5%.
- Created an **autonomous navigation stack** with a PID based low level control and RRT based path planning for obstacle avoidance. Performed mapping of a 100 Sq-ft Lab using only Lidar sensing utilizing the SLAM-toolbox.

Projects

Solar DC Powered Washing Machine | *New Product Dev., Hardware testing* 01/2021

- Developed a functional prototype demonstrating reliable performance and safety, highlighting the feasibility of solar-powered appliances in off-grid environments and receiving positive feedback from target users.
- Collaborated with local machine shop to integrate solar panels, a DC motor, and custom-fabricated parts, enhancing skills in communicating complex technical topics to various stakeholders.
- Conducted extensive testing and validation per IS302-1:2008 to ensure system reliability and safety under various operating conditions, gaining hands-on experience with hardware reliability testing.

Skills and Tool-sets

Core Competencies: Hardware design, Troubleshooting, System integration, MEMS Design, Battery Management Systems, DC-DC Converters, Control Systems Design, GD & T.
Programming Languages: Python, C/C++, ROS2 (beginner), Rockwell RS Logix 500 (Ladder logic), SQL (basic)
Development Tools: MatLab, Simulink, CoventorWare, L-Edit, COMSOL, Catia, LabVIEW, Android Studio, Linux, LaTeX, Git
Product Development Frameworks: APQP, Airbus product development life-cycle, QMS, FMEA, RCA

Education

University of California, Irvine 09/2023 – 01/2025 (Expected)
*Master of Science in **Electrical Engineering** - Systems Track* *GPA: 3.78*
National Institute of Technology Tiruchirappalli, India 07/2017 – 05/2021
*B.Tech **Instrumentation and Control Engineering**; Minor : **Computer Science*** *GPA: 8.63 (Cum Laude)*