Ajay Shankar Sriram

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EDUCATION

University of California, Irvine 09/2023 – 01/2025 (Expected)
*MS **Electrical Engineering*** *GPA: 3.78*
Courses: Micro Sensors and Actuators, Micro-System Design, Autonomous Systems, Control & ML,AI Power Electronics, Linear Systems, Digital Communications

National Institute of Technology Tiruchirappalli, India 07/2017 – 05/2021
*B.Tech **Instrumentation and Control Engineering**; Minor : **Computer Science*** *GPA: 8.63 (Cum Laude)*
Courses: Sensors and Transducers, Medical and Optical Instrumentation, Control Systems, Industrial and Process Control, Product Design and Development, Internet of Things, Data Structures and Algorithms, Neural Networks and Fuzzy Logic

TECHNICAL SKILLS AND TOOL-SETS

Development Tools: CoventorWare, L-Edit, MatLab, Simulink, LabVIEW, Code Composer Studio, Tina-Ti, Android Studio
Programming Languages: Ladder Logic (PLC programming), Python, C/C++, Kotlin, ROS (beginner)
Product Development Frameworks: Agile, Advanced product quality planning(APQP), Failure Mode and Effect Analysis(FMEA)

EXPERIENCE

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

- Led a **cross-functional** international team towards the global effort to **design, develop, and qualify safe, standardized electrical parts** for all aircraft systems and the maintenance and updating of technical documentation
- Practiced a **Lean framework(APQP)** to validate **Root Cause Analysis, FMEA, testing requirements & reports**
- Communicated closely with major manufacturers in the **electro-mechanical component** (switch, relay, proximity sensor) space to ensure the reliability and compliance of their design with international and company standards
- **Validated** 2 **qualification test plans** and **validated** respective supplier\manufacturer **test reports** in compliance with European Union Aviation Safety Agency Part 21 Design Organization Approval and DO-160 requirements
- Was the driving force for **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 thus produced business savings
- Received **2 Spot Awards highlighting significant contributions** at Airbus. The first for playing a key role in enhancing knowledge management and **improving access to crucial information for 600+ employees**. The second in recognition of efforts in **presenting** department achievements to Airbus' CTO in a tight timeframe

PROJECTS

Design and Construction of a Boost Converter |*SIMULINK, powerGUI, Hardware* 03/2024

- Implemented a power system with an input voltage range of 30VDC - 40VDC, outputting 70VDC at 20W with less than 1% ripple, operating at 200kHz switching frequency, and utilizing Continuous Conduction Mode (CCM) at 20W, adaptable to Discontinuous Conduction Mode (DCM) at lower powers.
- Verified system performance through simulation and experimental validation, with results showing output voltage ripple within specified limits and high system efficiency of about 93% - 94%

Teleoperation of TurtleSim | *ROS2, Python, C++, Linux* 04/2024

- Created a ros2 node that can read the inputs from the keyboard using curses and control the turtlesim_node
- Developed a ros2 node that gets the destination coordinated from the user and controls the turtle using PID control
- Made a C++ ros2 node to make the turtle move in a figure eight

Design and Simulation of 10Khz MEMS Resonator | *L-Edit, CoventorWare, COMSOL, PolyMUMPS* 12/2023

- Designed a micro-resonator to be manufactured using the **PolyMUMPS** process with **closed loop** electronics operated at 5V to maintain the oscillation frequency at the desired value of 10Khz with an error of **0.4%**
- Studies were conducted using **Simulink** to show the effect of temperature, manufacturing tolerances, Brownian and Johnson Noise and also to identify the vacuum packing requirements

Design and simulation of intelligent controllers - B.Tech Thesis | *Intelligent Control, Modelling* 04/2021

- Designed and simulated **intelligent control strategy** for a two-wheeled differential drive robot that is operating in a hostile, obstacle-filled environment. The mathematical model was derived based on first principles
- Conducted a comparative analysis of **fuzzy logic-based and intelligent PID-tuned controllers** in a SIMULINK environment. Simultaneous experiments were performed with load torques of varying degrees of strength to model obstacles