RAHUL ESWAR

TEST ENGINEER | EMBEDDED SYSTEMS DEV | RESEARCHER
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SUMMARY OF QUALIFICATIONS

A Systems and Computing Engineer with an aptitude for electronics and embedded systems development.

- Master's in Engineering Systems with software experience in professional work and research prototyping.
- Strong hardware skills built designing, debugging complex mixed signal PCBs as test engineer and researcher.
- Excellent software skills with experience using Python for coding automation scripts and ML projects.
- Proven ability to interpret wiring diagrams and debug complex electronic systems as a test engineer.

RECENT WORK EXPERIENCE

TESLA Feb 2020 - CURRENT
FIRMWARE VALIDATION ENGINEER Palo Alto, USA

- Designing, deploying and maintaining hardware and software of hardware-in-the-loop (HIL) testers used for vehicle control units.
- Software development for crash test control system.

UNIVERSITY OF GUELPH May 2019 - Jan 2020
RESEARCHER AND TA Guelph, Canada

- Developed high-voltage PCBA electronics, firmware and LabVIEW GUI control software of a digital microfluidic device used for parallel detection of antibiotics in milk.
- Head teaching assistant for Microcomputer Interfacing course.

CREATION TECHNOLOGIES Apr 2018 - Jan 2019
TEST ENGINEER Toronto, Canada

- Developed 2 test fixtures for automated functional testing of 4 PCBAs used in an electrochemical diagnostic product.
- Built LabVIEW application used by technicians to scan PCB barcode, launch test program and update test result in SQL database.

TECHNICAL SKILLS

SOFTWARE

Programming
- C, C++, Lua
- LabVIEW, TestStand
- TypeScript, JavaScript
- HTML, CSS, LaTeX

Toolkit
- FreeRTOS, NodeMCU
- Nodejs, Express, React
- Git, TortoiseSVN

Circuit Design
- OrCAD, KiCAD
- LTspice

HARDWARE

Microcontrollers
- STM32 ARM Cortex M
- ESP8266, ESP32
- ATmega328

EDUCATION

UNIVERSITY OF GUELPH
MASTER OF APPLIED SCIENCE
Systems and Computing
May 2019 - January 2020
GPA: 93.8%
Dean's COVID Award

UNIVERSITY OF GUELPH
BACHELOR OF ENGINEERING (CO-OP)
Biomedical Engineering
Sept 2014 - Apr 2019
GPA: 82.2%
Honours Graduate
Entrance Scholarship

PROJECTS

OpenGrow: IoT Plant Monitor 2020
An STM32 IoT device with FreeRTOS to monitor a plant's soil moisture and light availability. Data is published through MQTT broker, logged in MongoDB database, accessible from MERN stack web application.

STM32-SSD1306 Display Drivers 2020
Developed non-blocking low-level drivers using interrupts and DMA for SSD1306 based displays and STM32 ARM microcontrollers.

PUBLICATIONS

Microfluidic fabrication with silver nanowires for optofluidic structures with 3-dimensional operation (2020) - *Sens. Actuator A Phys.*

Voltage control for microchip capillary electrophoresis analyses (2020) - *Electrophoresis*