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.

- Experienced in mixed signal PCB design and debug developed as test engineer and researcher.
- Adept in programming STM32 ARM Cortex, ESP, Arduino microcontrollers on bare-metal and with RTOS.
- Strong knowledge of digital and network communication protocols not limited to UART, I2C, SPI, MQTT.
- Practiced in implementing hardware and software signal filters for sensor data acquisition.

RECENT WORK EXPERIENCE

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

- Designed high-voltage PCBA electronics and LabVIEW GUI control software of a digital microfluidic device used for parallel detection of antibiotics in milk.
- Delivered tutorials and lectures to class sizes up to 100.

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

- Developed 2 test fixtures for automated 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 database.

CITY OF TORONTO
Jan 2017 - Sept 2018
IT INTERN
Toronto, Canada

- Supported an ERP project in workflow documentation, database maintenance and provided general IT support.

TECHNICAL SKILLS

SOFTWARE

Programming
- C, C++, Lua
- LabVIEW, Teststand
- Typescript, Javascript
- HTML, CSS, LaTeX

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

Circuit Design
- KiCAD, OrCAD
- LTspice

HARDWARE

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

EDUCATION

UNIVERSITY OF GUELPH
MASTER OF APPLIED SCIENCE
May 2019 - PRESENT
GPA: 93.8%
Dean's COVID Award

UNIVERSITY OF GUELPH
BACHELOR OF ENGINEERING (CO-OP)
Sept 2014 - Apr 2019
GPA: 83.4%
Honours Graduate
Entrance Scholarship

PROJECTS

Win32 Sudoku Solver 2020
GUI built with WinAPI and C. Applies a depth-first-search algorithm to solve a sudoku in real-time at user-chosen speeds.

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 three-dimensional operation (2020) - *Submitted*

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