Ravindu
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KEY COMPETENCIES

- 2+ years of experience in RTOS integration and test automation software development within a SAFe Agile business environment.

- 1+ years of graduate research experience developing design automation tools for computational optical modeling.

- Familiar with the TCP/IP stack, Linux based OSs, and virtualization tools such as VMs and Docker.

- Hands-on lab experience with instruments such as oscilloscopes, multimeters, signal generators, and network analyzers.

- Experienced in integration testing: developing/executing unit tests, regression tests and the root-cause analysis of defects.

WORK EXPERIENCE

SEP 2021 - APR 2023 (FT)
University of Alberta - Electrical Engineering
Computational Photonic Researcher

- Independently developed and implemented a novel inverse design pipeline utilizing ANSYS Lumerical API with peer-reviewed optimization algorithms for silicon photonics.

- Developed Python and MATLAB scripting tools to extract, analyze, and visualize simulation results, streamlining data-driven decision-making processes.

- Conducted comprehensive review of 300+ peer-reviewed academic papers for project planning, and troubleshooting.

- Engaged in bi-weekly presentation of research findings tailored to disseminate technical knowledge within the team.

- Assisted in teaching a digital image processing course of 45 senior undergraduate engineering students.

MAY 2019 - AUG 2021 (FT)
General Dynamics Mission Systems - Canada
SDET / System Integration Engineer P2

- Substantially expanded the team's test automation infrastructure (Python) capabilities to verify product requirements.

- Engineered solutions to high-priority firmware defects (C++) via code and device log investigations for RTOS based military devices.

- Developed and executed comprehensive test plans against complex configurations of subsystems: military radios, satellite/GPS receivers, Ethernet data/voice links, and network switches.

- Developed a universal Python logging standard and wrapper library to streamline debugging.

- Built, maintained, and deployed CI pipeline, along with related network configurations to facilitate a consistent testing environment and code quality.

EDUCATION

SEP 2014 - JUN 2019   **BSc in Electrical Engineering**
Electrical and Computer Engineering
University of Alberta

TECHNICAL SKILLS

LANGUAGES	Python, MATLAB, Java, Bash, C/C++, HTML, CSS
DEVELOPER TOOLS	VS Code, Git, Vim, PyCharm, Confluence, GDB, Valgrind, GCC/Clang, CMake
TECHNOLOGIES	LaTeX, Linux, TCP/IP, Wireshark, TailwindCSS, Qt, JUnit, unittest, Robot Framework, CORE, Docker, VMs, Java Swing
PROJECT MANAGEMENT	Github, GitLab, AGILE, SCRUM, KANBAN, IBM RQM/CCM

SOFTWARE PROJECTS

Tetris Game | C++

- The classic Tetris game recreated with C++20 using Clang and CMake tools.

- Project utilized the SFML multimedia library for implementing the game GUI.

TCP Server/Client | C

- A simple IP version agnostic stream server and client program designed to run on Linux based operating systems.

- The client user is able to specify the server IP/hostname and listening ports as command line arguments.

Packet Sniffer | C

- IPv4 packet sniffer program created for Linux using libpcap.

- The user can specify the number of packets to capture and any tpcdump style filters by providing command-line arguments.

- The parsed packet output is well formatted and logged to a file.

Invoice Generator | Python

- Created a Python-based desktop application for professionally formatted PDF invoices.

- GUI was implemented using PyQt6.

- Application packaged using PyInstaller and Windows installer created with InstallForge.