Ravindu Karunathilake

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KEY COMPETENCIES

- OOP experience with skills in embedded **software development** (**C/C++**), test automation, data visualization (**Python/MATLAB**), and desktop application development (**Java**).
- 2+ years of **system integration** experience developing firmware and **test automation** infrastructure within an **agile** business environment.
- Experienced in managing test data, developing/executing comprehensive test plans and unit tests against complex system requirements.
- BSc. in Electrical engineering with 1+ years of experience in graduate academic research.

WORK EXPERIENCE

SEP 2021 - APR 2023 (FT)
University of Alberta - Electrical Engineering
Graduate Researcher in 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+ academic papers for project planning, and troubleshooting.
- Engaged in bi-weekly synthesis and presentation of research findings tailored for diverse technical and non-technical audiences.
- Assisted in teaching a digital image processing course of 45 senior undergraduate engineering students.
- Completed 15 credits of graduate level course work (GPA: 3.9/4.0).

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

- Expanded team automation infrastructure to cover 80% of product functionality.
- Engineered solutions to high-priority firmware defects (C++) via code and device log investigations.
- Developed a universal Python logging standard and wrapper library to streamline debugging.
- Effectively managed the validation of complex product specifications for 100+ Python-based automated tests.
- Adhered to AGILE principles, actively participating in daily stand-up, bi-weekly SPRINT meetings, and spearheading PI planning sessions.
- Mentored junior members (5+) through code reviews, and pair-programming sessions.

EDUCATION

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

TECHNICAL SKILLS

LANGUAGES	Python, MATLAB, Java, Bash, JavaScript, C/C++ HTML, CSS
DEVELOPER TOOLS	VS Code, GIT, Vim, PyCharm, Confluence
TECHNOLOGIES	LaTeX, Linux, TCP/IP, Wireshark, TailwindCSS, Qt, JUnit, unittest, RobotFramework, Selenium, CORE Docker, Selenium, Java Swing, VMs
PROJECT MANAGEMENT	Github, GitLab, AGILE, SCRUM, KANBAN, IBM RQM/CCM

PROJECTS

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.

Chess Engine | Java

- Java-based chess game with GUI using Java Swing toolkit.
- Features traditional chess gameplay for local players with minimax based AI.
- Project utilized Java OOP concepts and test-driven development (JUnit4).

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.
- The PDF was created and formatted with fpdf2 Python library.