Ravindu Karunathilake

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KEY COMPETENCIES

- OOP experience with skills in embedded software development (C++), test automation, data visualization (Python/MATLAB), and desktop application development (Java).
- 2+ years of system integration experience working within a cross-functional SAFe AGILE business environment.
- 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

- 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.
- Developed Python and MATLAB scripting tools to extract, analyze, and visualize simulation results, streamlining data-driven decision-making processes.
- 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
Systems Integration Engineer (EIT)

- Effectively managed the validation of complex product specifications for 100+ Python-based automated tests.
- Developed a Python logging standard and wrapper library to streamline test debugging.
- Built, maintained, and deployed Docker containers, and related network configurations to facilitate a reliable testing environment.
- Engineered solutions to high-priority firmware defects (C++) via code and device log investigations.
- 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.
- Excellence recognized through awards, outstanding performance reviews, and a promotion from junior to intermediate system integration engineer.

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, Assembly
DEVELOPER TOOLS	VS Code, GIT, Vim, PyCharm, Confluence
TECHNOLOGIES	LaTeX, Linux, TCP/IP, Wireshark TailwindCSS, Qt, JUnit, unittest, RobotFramework, Selenium, Swing Docker, Selenium, Swing
PROJECT MANAGEMENT	Github, GitLab, AGILE, SCRUM, KANBAN, IBM RQM/CCM

PROJECTS

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 aimed to practice Java OOP 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 PyIntaller and Windows installer created with InstallForge.
- The PDF was created and formatted with fpdf2 Python library.

Automated Photonic Designer | Python

- Developed Python design pipeline for free-form optical devices (metasurfaces).
- Interfaced with electromagnetic solver API (ANSYS Lumerical)
- Utilized data analysis and visualization libraries, including matplotlib, pandas, numpy, and scipy.