SURYA NARESHAN

ENGINEERING PHYSICS NEW GRADUATE

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An experienced engineering physics new graduate seeking a long-term technical position in the field of low-level software engineering. Through my coursework and hands-on experience, I have gained proficiency in designing and implementing programs in embedded systems as well as programming in Python, C++, and other languages to analyze data and model systems.

WORK EXPERIENCE

Wind River

Helix Software Development and Testing CO-OP

May 2022 – August 2022 Ottawa, Ontario

- Utilized the LDRA test suite to analyze, test, and track requirements for Wind River's Helix software.
- Developed automated test scripts using Python's unittest framework to validate software functionality and catch regressions.
- Documented defects and collected logs to assist the development team in reproducing and resolving issues.
- Used version control systems like Git to manage test code and collaborate with team members.

Ciena Corporation

Optical Microsystems Product Verification CO-OP

May 2021 – December 2021 Ottawa, Ontario

- Designed and developed a Performance Monitoring binning tool for pluggable optical modules using MDIO and JSON, utilizing C and C++.Used GIT for source control, Gerrit for code reviews, JIRA for problem tracking and Confluence for documentation.
- Optimized the Performance Monitoring collection using threads and message queues with real-time embedded software on a Linux-based custom board.
- Conducted product verification tests on optical modems, involving the testing of hardware, software, and fiber optic components by running scripts, setting up test equipment, and physically testing modules.

AirShare, Inc.

AI Embedded Developer CO-OP

June 2020 – September 2020 Ottawa, Ontario

- Created a serial communication API in Python for porting a neural network trained inference engine to a standalone hardware GPU for execution.
- Wrote serialization/deserialization code to send and store binary data based on a written protocol (Python3).

APPLIED PROJECTS

Programmer

Quantum Computing Capstone Project

September 2022 – April 2023 Carleton University, Ottawa, Ontario

- Implemented the HHL quantum algorithm to try and solve partial differential equations using the Qiskit library in Python.
- Tested and compared implementation using IBM's quantum simulator with classical algorithms.
- Awarded $24 000 for being selected for the W.E. Cowie Award for demonstrating top quality innovation in engineering with this project.

EDUCATION

B.Eng. in Engineering Physics

Carleton University

Sept 2018 – May 2023

- CGPA 10.8/12 (A-)
- Awards and Scholarships; W.E. Cowie Innovation Award, Lester B. Pearson Scholarship

PROGRAMMING LANGUAGES/TOOLS

Python

Matlab

C++

C

Linux

MS Office Suite

Git

Java

Perl

SOFT SKILLS

- Strong communication, interpersonal, and teamwork skills
- Considerable electrical and optical lab equipment experience
- Strong analytical skills
- Extensive knowledge of statistical methods
- Extensive math and physics background
- Experience with software documentation
- Experience with object-oriented programming
- Strong problem solving skills