SAMI MNIF

Software Engineering Student

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Canadian Citizen / EU Citizen

Ottawa, ON, Canada
https://github.com/Samimnif

WORK EXPERIENCE

Systems & Software Engineer Intern — *Ottawa, Canada*

Carleton University — May – Dec 2023 / May – Aug 2024

- Nominated for "*CO-OP Student of the Year*" for exemplary performance.
- Tested the ARHT Hologram 3D capsule with a capture studio to develop holographic content for a faculty research project focused on preserving Indigenous history.
- Managed a team of consultants and successfully oversaw multiple projects.
- Evaluated Oculus VR headsets for 3D design applications and tested the Microsoft HoloLens, enabling immersive interaction with 3D objects in an educational setting.
- Proficiently researched, evaluated, and tested software and hardware, actively contributing to special projects, including software development and emerging technologies.
- Designed and built an interactive office sign using ESP32 microcontrollers, enabling wireless communication between ESP32 devices. Developed and tested both the hardware and embedded software to ensure reliability and performance.

IT Programmer/Analyst Intern — *Ottawa, Canada*

Canada Revenue Agency — Jan 2023 – Apr 2023

- Researched and implemented machine learning solutions in the DevLabs team, developing an anomaly detection system to identify phishing emails and a fraud detection model for loan applications.
- Applied Agile development methodologies by leading sprints as a certified Scrum Master, enhancing team collaboration and communication.
- Developed and integrated machine learning models into projects, leveraging frameworks such as Flask, Node.js, and Angular for web development.
- Utilized DevOps tools, including Git, Jira, Jenkins, and SonarQube, to optimize and streamline development processes.
- Managed Jenkins pipelines to automate builds, diagnose failures, trace root causes, and implement necessary code fixes using Java.

Head IT Consultant — *Ottawa, Canada*

Sprott School of Business — Sep 2021 – Dec 2022

- Nominated for "*Service Excellence Awards*".
- Automated hardware check-ups, saving 10+ hours per month for staff.
- Trained and directly supervised the work of new consultants.
- Planned and delegated tasks to consultants by providing accurate and consistent guidance.

EDUCATION

B. Engineering

Software Engineering
CO-OP Designation

Carleton University
Ottawa, Ontario, Canada

September 2020 – April 2025

Fourth-year standing
Expected Graduation: *April 2025*
CGPA: *10.30/12*

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, C, C++, Go, JavaScript, SQL, XML, MATLAB, Smalltalk, Swift, PHP, Racket, Prolog.
- **Embedded Systems and IoT:** ESP32, Raspberry Pi, Arduino, STM32, MSP430.
- **Web Frameworks:** Spring Boot, Flask, Angular, Node.js
- **DevOps Tools:** CI/CD, Git, Jira, Jenkins, SonarQube, Linux, QNX Neutrino RTOS, Kubernetes, Docker
- **Cloud Platforms:** Azure, AWS
- Agile, Scrum

SOFT SKILLS

- **Multilingual:** *English, French, Arabic, Latvian, Russian*.
- Demonstrated adeptness in both independent and collaborative work, fostering productive relationships.
- Developed leadership and interpersonal skills as a Senior Cadet and Head IT Consultant.
- Ability to multitask, adapt to changing priorities and deliver timely results.

PROJECTS

Kernel Simulator in C (SYSC4001)

- Built a scheduler supporting FCFS, SJF, and RR algorithms, enhancing system efficiency by 25%.
- Gained practical experience with OS-level task scheduling and collaborative problem-solving.
  GitHub: https://github.com/Samimnif/SYSC4001-Kernel-Sim/tree/main

Office Sign Automation in MicroPython

- Designed a low-cost solution for dynamic office signage using Raspberry Pi Pico.
- Programmed a matrix LED to display custom text and 3D-printed a protective case.
  GitHub: https://github.com/Samimnif/Portfolio-Personal-Projects/tree/main/Office%20Sign%20MicroPython

Cryptographic Banking System (SYSC4810)

- The system employs a Role-Based Access Control (RBAC) mechanism to ensure users only have access to features and functionalities relevant to their roles.
- implemented robust authentication mechanisms by hashing passwords using the SHA-256 algorithm, combined with a unique salt for each user to protect against brute force and rainbow table attacks.
  GitHub: https://github.com/Samimnif/SYSC4810-justInvest

Capstone Project Management System (SYSC4806)

- Developed a web-based Capstone Project Management System using Java Spring Boot to streamline the management of 4th-year student capstone projects.
- Built with Java Spring Boot, utilizing RESTful APIs and AJAX for dynamic and efficient client-server communication.
- Deployed on Azure, ensuring scalability, reliability, and seamless access.
  GitHub: https://github.com/jalalmourad/SYSC4806_Group20

Real-Time Elevator Simulator in Java (SYSC3303)

- Elevator Simulator using Java Threads to simulate multiple elevators running concurrently.
- An input file will provide with job requests, and the system will try to service them with the appropriate elevator efficiently.
  GitHub: https://github.com/Samimnif/SYSC3303-Elevator-Sim

Health and Fitness Club Management System

- Developed a web-based management system using the Flask framework in Python to handle gym club operations efficiently.
- Integrated a PostgreSQL database to store and manage member information, subscriptions, and activity records.
- Designed the backend to handle data saving and retrieval seamlessly using Python for database interactions.
  GitHub: https://github.com/Samimnif/COMP3005-Health-Fitness-Club

Smart Automatic Garden Watering (GardenPi 1.0)

- Developed an automated irrigation system with Python, controlling sensors and motors.
- Improved user experience by integrating remote control functionalities and automation scripts.
  GitHub: https://github.com/Samimnif/Portfolio-Personal-Projects/tree/main/GardenPi%20Project

Discord Bot in Python

- Utilized Discord.py API to create a discord bot that responds to various commands to simplify some functions for server owners.
- Integrated JSON data into the code to be able to store in-game information, i.e. balance, job selected ...
- Designed a logo and webpage to be able to share the bot with others by clicking on the add button.
  GitHub: https://github.com/Samimnif/Portfolio-Personal-Projects/tree/main/Discord%20Bot%20project