DEBORAH AJAYI

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EDUCATION

Carleton University **Ottawa, Ontario**
Bachelor of Engineering in Computer Systems Expected [June 2026]

- Third Year Standing
- **Relevant Coursework:** Operating Systems, Algorithms and Data Structures, Object-oriented programming, Real time systems

SKILLS

Software/Tools/Framework: Git, Gitlab, SVN, Jenkins, Virtual Machines
Technical Skills: Python, C/C++, Java

WORK EXPERIENCE

Blackberry QNX **Ottawa, Ontario**
Software Developer Intern January 2024 – August 2024

- Proficient in resolving Common Vulnerabilities and Exposures(CVEs) related to coding libraries
- Delivered bug fixes reported.
- Worked with makefiles for building projects with multiple dependencies.
- Used virtual machines(QEMU) to run tests on different architectures to ensure proper functionality.
- Experience working with Git and SVN for corporate projects.
- Operated on a Linux system and adapted working on the terminal.

PROJECT EXPERIENCE

Data Analyzer(Python)

- Developed an interactive dataset analyzer program with a user-friendly interface which was used to call data analysis functions.
- Developed functions to create dictionaries that organize books and storing it in a dictionary, then implemented functions to manage the book data.
- Created functions for various data manipulation such as adding books, and retrieving books.
- Conducted unit testing for each function and integrated the functions to a single file ensuring correctness and adhering to the guidelines.

Object Oriented Project(Java)

- Developed a game that enables the users to control characters, navigate various rooms and engage with different items.
- This project utilized Object Oriented Programming principles, including inheritance, abstraction, and polymorphism.
- Drew UML diagrams to represent the relationship between classes, made use of composition relationships to create complex objects by combining simpler ones, enhancing the game's architecture.

OS Kernel Simulator(C)

- Developed a functional OS kernel simulator for performance analysis of scheduling algorithms.
- Implemented state transitions and I/O operations, resolving complex issues to ensure accurate simulation.

- Modeled process states using a PCB-like data structure and generated detailed output files for analysis.

Embedded System Development(C)
- Utilized embedded C programming on the MSP432P401R microcontroller.
- Implemented diverse functionalities such as simulating a traffic light and integrating joystick control to alter frequency noise from a booster pack.
- Configured interactive LED control with switches, implementing debouncing logic and utilizing interrupts for event handling, employed ISRs and timers.
- Implemented intricate bitwise operations on variables, demonstrating strong understanding of binary manipulation techniques.

Linux ATM Simulator(C)
- Developed a prototype program emulating an ATM system.
- Utilized concurrent processes(DB Server, DB Editor and the ATM) and IPC services.
- The ATM interacts with the user by requesting account numbers and PIN.
- The DB server handles authentication of account, balance requests, withdrawals, and updates.
- The DB editor allows manual updates to the database.
- Message queues ensured seamless communication between the processes.