

Fayz Ergashev

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EDUCATION

University of Waterloo - GPA 3.9

Waterloo, ON, Canada

Candidate for Bachelor of Computer Science

Sep. 2022 – May 2027

Relevant Coursework:

Object-Oriented Programming (Enriched), Computer Organization, Foundations of Sequential Programs (Compilers)

SKILL

Technology: C, C++, Python, Java, Bash, Javascript, Git, Make, MIPS, ARM, Verilog

EXPERIENCE

Canadian Imperial Bank of Commerce

May – Sep. 2023

Software Developer

Hybrid

- **Debugged PowerShell** scripts in **Azure DevOps** to maintain and upgrade pipelines
- **Developed Python** tools in **Databricks** using **PySpark** to view and modify data in **ADLS**
- **Collaborated** with 2 teams and over 10 employees to **compile** a 45 page documentation for a data warehouse

UW Orbital - Satellite Design Team

Jun. – Aug. 2023

Firmware Developer

Remote

- **Developed** space-proof drivers for peripheral devices on satellite in **C**
- **Built** task manager firmware for the satellite utilizing **FreeRTOS**
- **Refactored** a library to use static memory allocation instead of dynamic memory allocation

Waterloop - Hyperloop Design Team

Jun. – Aug. 2023

Firmware Developer

Remote

- **Built** a network layer in **C** using **User Datagram Protocol (UDP)** for communication between devices
- **Researched** benefits and detriments of using **Transmission Control Protocol (TCP)** vs **UDP** on the pod

PROJECTS

AGE (A Game Engine) | C++, ncurses | [Git](#), [Youtube](#)

Nov. 2023 – Present

- **Created** an ASCII game engine from scratch using an **Object-Oriented Design** following the **SOLID principles**
- Utilized multiple **design patterns** such as factory, MVC, and observer
- Built using **C++20** and the **ncurses** library for TUI functionality
- Took advantage of C++ enhancements such as the MIL and passing by lvalue/rvalue references in order to increase efficiency of program

TCP Chatroom | C, TCP/IP, threads, ncurses | [Git](#), [Youtube](#)

Aug. 2023

- Used **TCP/IP sockets** to create a retro-style chatroom application in the **command-line**
- Built a terminal user interface using the **ncurses** library
- Utilized the **pthread library's mutexes** to handle multiple **threads** for receiving and sending messages **concurrently**

Quran Translation Provider | Python, urllib, JSON | [Git](#), [Youtube](#)

Feb. 2023

- Created a **Python script** to display English translation of verses of the Qur'an
- Uses the **urllib library** to make http requests to a **server**
- **Parses JSON** and presents the data

Matrix Calculator | C, ncurses | [Git](#), [Youtube](#)

May 2023

- Developing a calculator that performs linear algebra (matrix/vector multiplication, etc)
- Implemented a TUI using Ncurses

LEADERSHIP EXPERIENCE

Islamic Information Centre of the University of Waterloo

Mar. 2023 – Present

VP Outreach

Muslim Student Association of the University of Waterloo

Sep. 2023 – Present

Education Team Member

Parkdale Collegiate Institute Model United Nations

Mar. 2021 – May 2022

Co-President