

# 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++20 enhancements such as the MIL, metaprogramming 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*