Uzma Ferdous

uzma.ferdous@mail.utoronto.ca | *647-772-8324* | *GitHub* | *LinkedIn* | *Portfolio Website*

EDUCATION

University of Toronto, B.A.Sc in Computer Engineering *2021 – 2026 (expected)*

- Awarded Dean's Honour List (2021/22 Fall, 2022/23 Fall)
- ***Relevant courses:*** Software Design and Communication (C++), Programming Fundamentals (C++), Computer Fundamentals (C), Computer Organization (ARMv7), Digital Systems (Verilog HDL), Calculus III
- ***Clubs****:* Engineering Society Web Developer, UofT Engineering Competition Programming Director, ECE Ambassador

SKILLS

Programming	C/C++ • Python • React.js • HTML/CSS • JavaScript • Verilog HDL • Java
Tech & Database	Next.js • Express.js • Google Cloud Platform • Google Firebase • MongoDB • Docker
Tools & Concepts	Git • Jira • Confluence • TCP/IP • CI/CD • Agile Software Development

EXPERIENCE

Infrastructure & Cloud Operations Intern, Questrade Financial Group *May 2023 - present*

- Gaining hands-on experience with **Google Cloud Platform** (GCP), **Terraform**, and **GitLab** to write and test infrastructure automation code, manage cloud resources, and collaborate in a cross-functional team.
- Leveraging **Jira** and **Confluence** to review code and document server-related set-up and maintenance procedures.
- Utilizing **infrastructure management** tools such as Device42 and vSphere to correct **100+** device inventory records, manage network infrastructure, and generate detailed reports for optimizing resource allocation.

Web Developer, University of Toronto Engineering Society *January 2023 - present*

- Working in a **team of 6** to upgrade and add functionalities to engineering orientation website for **1000+** incoming students using **React.js**, **SASS**, **Express.js**, **MongoDB**, and **Docker**.
- Created account verification and subscription system using **AWS Simple Email Service** (SES) and **JSON Web Tokens**.
- Applying agile software development methodologies through weekly tasks and code review meetings.

IT Intern, Children's Aid Society of Toronto *June - September 2022*

- Configured Checkpoint security software for **400+** Lenovo laptops and kept record of progress using **Microsoft Excel**.
- *Key achievement*: Successfully prepared **800+** laptops for deployment to office employees.

PROJECTS

'Uzma's Art Shop' – Full Stack eCommerce Website (Link → GitHub) *May – July 2023*

- Designed an e-commerce website for my paintings using **React.js**, **Next.js**, and **Styled-Components**.
- Integrated **React hooks** so users can add products to 'cart' and navigate to checkout page built using the **Stripe API**.
- Used **Google Cloud Platform**, **MongoDB**, and **AWS S3 Buckets** for storing account, order, and resource information with **CRUD** functionalities for features such as product reviews and user favourites.
- Developed a commission request system through **EmailJS** to enable users to send commission inquiries.

Scavenger Hunt GIS *January - April 2023*

- In a **team of 3**, created a GIS in **C++** to extract information from the **OpenStreetMaps API** and store street intersections, points of interest, natural features, and transit data from over 8 billion graph nodes.
- Implemented a **Trie** data structure and integrated it alongside **STL data structures** to optimize autocomplete searching and zoom rendering, increasing overall GIS responsiveness by over **20+** frames per second.
- Secured **4th** out of 90 teams on course leaderboard for our 'Travelling Courier Problem' algorithm involving **Multi-target Dijkstra**, **simulated annealing**, and **two-opt** operations, leading to a **4%** better solution than the benchmark.

ARMv7 Battleship (GitHub) *April 2023*

- Developed an interactive Battleship game in **C** for the DE1-SOC board with user interface on the VGA display.
- Utilized the Generic Interrupt Controller (**GIC**) to handle interrupts from user input for multiple I/O Devices including DE1-SOC board pushbutton keys and switches, and an external PS/2 Keyboard.
- Configured the **A9 Private Timer** to measure and display player turn countdowns and control gameplay animations.