Uzma Ferdous

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EDUCATION

University of Toronto, BASc in Computer Engineering | cGPA: 3.48 *2021 – 2026*

- **Awards:** Dean's Honour List ('21 Fall, '22 Fall, '23 Fall, '24 Winter), Konrad Group Women in Technology Scholarship
- **Relevant coursework:** Data Structures & Algorithms, Operating Systems, Software Design & Communication, Fundamentals of Deep Learning, Computer Networks, Computer Organization & Architecture, Electronics
- **Extracurriculars:** You're Next Career Network (YNCN) Brand Growth & Marketing Director, ECE Ambassador

SKILLS

Languages	C, C++, C#, JavaScript, TypeScript, Python, HTML/CSS, Verilog HDL, Assembly (ARMv7)
Frameworks/Libraries	React.js, Node.js, .NET, PyTorch, Next.js, Express.js
Tools	AWS, Google Cloud Platform, MongoDB, New Relic, Sumologic, Docker, Git, Jira, Confluence

EXPERIENCE

Software Engineer Intern, Xero *May 2024 – present*

- Performed load testing on **15 API endpoints** with the K6 library to validate readiness for **Amazon EKS** migration.
- Rebuilt entire Files UI using **TypeScript** and **RTK Query**, taking end-to-end ownership of key features such as file upload with progress tracking, drag and drop, table sorting, and centralized error handling.
- Designed a New Relic dashboard to monitor file services, displaying key metrics for on-call support like throughput, latency, and error rates, aligned with SLOs to track error budgets for proactive alerting.
- Developing a scalable API for documents functionality, replacing 9 integration points using **C#** and **.NET**.

Computer Vision Team Member, University of Toronto Robotics Association *August 2023 – April 2024*

- Implemented deep learning object detection algorithms for autonomous rover using **Python**, **PyTorch**, and **OpenCV**.
- Improved data labelling efficiency for lane line detection using Roboflow's annotate feature on a **1K** dataset.

Infrastructure & Cloud Operations Intern, Questrade Financial Group *May – August 2023*

- Leveraged Jira and Confluence to streamline change request workflows and create setup, maintenance, and troubleshooting guides for tools such as Google Cloud Platform, Pure Storage, and other cybersecurity software.
- Streamlined CMDB with tools such as Device42, vSphere, and SolarWinds to improve asset tracking.

PROJECTS

Text-to-ASL API *April 2025 – present*

- Working in a team of 4 to develop a Text-to-ASL API that converts written messages into American Sign Language (ASL) symbols and animations, aiming to bridge the communication gap between ASL users and non-signers.

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

- Designed a full-stack e-commerce website to display 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 admin site and features such as product reviews and user favourites.

Scavenger Hunt GIS *January – April 2023*

- In a **team of 3**, created a GIS in **C++** to extract information from the **OpenStreetMap 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.