

# Shaibal Muhtadee

Computer Engineering | University of Toronto

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647-526-1088

## EDUCATION

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### University of Toronto

Bachelor of Applied Science in Computer Engineering (Co-op)

Toronto, ON

Sept 2020 – Apr 2025

## EXPERIENCE

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### Robotics Software Engineering Intern

Zebra Technologies

Mississauga, ON

May 2023 – Sept 2024

- Designed and deployed **authentication** and **authorization** servers for hardware robots in **Rust**
- Built user interface with **Flutter** and API with **TypeScript** and **Cloudflare Pages** for secrets management
- Developed a **comprehensive test suite** in Rust that eliminated system bugs, ensuring a secure and reliable **API**
- Assisted in creating a secure **object store**, streamlining **file management** for data uploads and downloads

### Classroom Ambassador

University of Toronto

Toronto, ON

Sept 2022 – Apr 2023

- Assisted and educated instructors with delivering in person and online classroom lectures and tutorials
- Built and ensured the operation of Intel Crestron teaching stations and various streaming and audio equipment
- Organized and monitored the information technology support of various classrooms throughout the university

## PROJECTS

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### Inventory Dashboard

Full Stack App

Aug 2022 – Present

- Created a dashboard web app with the **MERN** stack for viewing and managing retail inventory
- Utilized **React** and **Express** for frontend and managed backend with **Node**, **MongoDB** and **GraphQL**
- Learned to automate unit and integration tests with **Jest** and deployed with **AWS Lambda**

### Portfolio Website - shaibalmuhtadee.com

Dynamic SPA

May 2022 – Sept 2022

- Created a responsive portfolio website with **React** and **TailwindCSS** to showcase my personal projects
- Utilized **TypeScript** and **React Hooks** to implement two themes and various interactive UI elements
- Leveraged the **NextJS** framework to improve **SEO** and simultaneously decrease site load times by **150%**

### JukeBox

Machine Learning and Classification

May 2022 – Aug 2022

- Created a **Convolutional Neural Network** model to train an **AI** to classify 10 different music genres
- Leveraged **PyTorch** and **TensorFlow** to confidently identify short audio clips with **92%** accuracy

### ChromaMap

GIS Map Application

Jan 2022 – Apr 2022

- Created a **Geographic Information System** mapping software using **C++** and the OpenStreetMap **API**
- Implemented **Dijkstra algorithm** and **A\* pathfinding heuristics** to solve the travelling salesman problem
- Improved browse and load times by over **300%** by developing a **Level of Detail** tiling scheme for the map
- Optimized application speed by **multi-threading** and code visualization, **stack trace** and **flame graphs**

### ARBIS

Dynamic Web App

Jan 2018 – Jun 2018

- Designed a website using **HTML**, **CSS**, and **jQuery** to administrate room bookings for high school teachers
- Leveraged **PHP** and **AJAX** to asynchronously update data with the server, improving user satisfaction by **100%**
- Used **MySQL** to securely store and update hundreds of records of time sensitive room booking data in a **database**

## PROGRAMMING SKILLS

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**Languages:** TypeScript, Rust, C, C++, Python, Dart, HTML, CSS, SQL, ARMv7 Assembly, Verilog

**Technologies:** Git, Linux, React, Cloudflare Pages, Flutter, Django, Firebase, Docker, Kubernetes, TensorFlow