




# Tawsif Mayaz

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## SKILLS

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**Languages:** JavaScript, TypeScript, Python, C#, SQL, Java, C++

**Frameworks:** React, React Native, Next.js, Svelte, Node.js, Express.js, Flask, FastAPI, Tailwind CSS

**Tools:** Docker, Kubernetes, GCP, Terraform, Helm, Argo CD, PostgreSQL, Supabase, Unity, Expo, Git

## EXPERIENCE

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**Empire Life Insurance Company** | *Software Developer Intern*

Jan 2026 – Present

- Developed a **cloud-native ETL platform** on **GCP**, integrating **Pub/Sub**, **Kubernetes**, and **Terraform** to enable scalable, automated provider data processing.
- Ensured data integrity across critical billing records by implementing a **SQLAlchemy/Sybase integration** with a two-phase upsert pattern.
- Deployed containerized services with **Docker**, **Helm**, and **Argo CD**, enabling resilient, automated workflows with scale-to-zero capabilities.

**Cineplex Digital Media** | *Software Developer Intern*

May 2025 - Aug 2025

- Reconstructed retail environments and modeled customer touch behavior through a **real-time spatial interaction system** in **Unity (C#)** using depth-sensing data.
- Reduced merchandising setup time by 60% by creating an **interactive 3D configuration workflow** backed with persistent storage (**SQLite**).
- Scaled exploratory analytics to 10,000+ interactions per session with a **React + Flask pipeline** for visualizing customer engagement.

**Electrium Mobility** | *Full-stack Developer*

Sep 2024 - Apr 2025

- Delivered an **e-commerce platform** for electric vehicle rentals with **Next.js** and **Supabase**, enabling smooth browsing, checkout, and payments.
- Built user authentication workflows handling onboarding, session management, and account recovery.
- Crafted a responsive interface with **Tailwind CSS**, ensuring accessibility and consistent cross-device usability.

**Mhapy** | *Full-stack Development Intern*

Jan 2024 - Aug 2024

- Contributed to an Agile team of 7 to launch 10+ features for a patient-therapist matching platform, boosting overall performance and UX.
- Implemented core frontend functionality using **React** and **Tailwind CSS**, increasing user engagement by 30%.
- Developed backend workflows with **NestJS**, **Express**, and **PostgreSQL** to enable personalized recommendations, improving matching accuracy by 25%.

## PROJECTS

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**Rosetta** | *React, TypeScript, FastAPI, PostgreSQL, RAG, LLMs*

Jan 2026

- Earned **3rd place** at **HackHive** by building a **live lecture translation and transcription platform**.
- Implemented a **RAG pipeline** with **local BGE embeddings**, **KeyBERT**, and **cross-encoder re-ranking** to provide contextual citations in real time.
- Engineered the **full-stack system** with **React** and **FastAPI**, leveraging **WebSockets** for streaming and **LLM-driven structured notes**.

**BetterKaraoke** | *React Native, Expo, TypeScript*

Aug 2025

- Created a **mobile karaoke app** with **real-time multiplayer**, synced lyrics, scoring, and matchmaking.
- Integrated **audio recording and mixing** with Expo AV, optimizing lyric synchronization for smooth playback.

**Dynamic World Generation - WEC** | *Python, Turtle, BFS*

Jul 2024

- Secured **1st place** out of 124 participants at the **Waterloo Engineering Competition** by designing a **Python-based world generation algorithm** using **BFS** and **Dijkstra's** for efficient pathfinding.

## EDUCATION

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**University of Waterloo**

Sept 2023 - Present

*Bachelor of Applied Science, Computer Engineering*

Relevant Courses: Data Structures and Algorithms, Digital Computers, Discrete Mathematics