Tanvir Sarao

tsarao@uwaterloo.ca
linkedin.com/in/tanvir-sarao

Technical Skills

Languages: Python, JavaScript, TypeScript, C, Racket
Technologies: MySQL, PostgreSQL, Django, MongoDB, Mongoose, Express, Node, React, Next, Pandas
Developer Tools: GitHub, AWS, Linux, Azure, GCP, Jupyter, Figma, Postman

Education

University of Waterloo — Waterloo, ON
Bachelors of Computer Science and Financial Management (Honors Co-op) — *Expected Graduation April 2029*

Experience

Software and Data Engineer Intern — May 2025 – August 2025
TELUS — *Toronto, ON*

- Served as the technical point of contact for data automation and reporting on the Enterprise SaaS and Cloud Optimization team, overseeing **$600M+** in spend across **20+ business units** and enabling executive insights.
- Automated **20+ data sources** using JavaScript to populate a TELUS-wide dashboard used by leadership to monitor spending trends, eliminating monthly manual reporting and informing **$600M+** in spend decisions.
- Led **10+ stakeholder meetings** and designing a centralized **cloud spend dashboard** from scratch by transforming **5+ raw system reports** using **MySQL, BigQuery, GCP, and Infrastructure as Code**.
- Delivered cross-functional solutions for **5+ teams**, including a custom **Monday.com API integration**, a **Google Sheets automation bot**, and AWS migration support to surface TCI-specific cloud spend insights.

Artificial Intelligence Engineer — January 2025 – March 2025
Arnii Fitness — *Vancouver, BC*

- Collaborated in a team of 3 to build an **AI-powered** workout recommendation agent, delivering personalized fitness insights **30% faster** by restricting prompt flow and backend data access logic, serving **3,000+ users** worldwide
- Reduced hallucinations and token usage **by 25%** with an optimized **Retrieval-Augmented Generation** pipeline built with OpenAI, Supabase and Buildship.

Backend Software Engineer — August 2024 – October 2024
AgentEdge Inc — *Brampton, ON*

- Developed a **CMS** platform that automates website management for **20+** real estate professionals in Canada
- Programmed role-based access and user session management systems using **JWT tokens and bcrypt**, while developing **RESTful API** endpoints with **Node** and **Express** that served content to over **85,000 visitors**
- Architected efficient **CRUD** operations for blogging and testimonial features using **MySQL** and **MongoDB**, implementing **MVC** practices to reduce code redundancy **by 25%** and **optimize** delivery speed **by 30%**

Projects

StoreReplay for Shopify | *React, Vite, Node.js, Express.js, Supabase, PostgreSQL, AWS S3, OpenAI*

- Built a session analytics platform gaining **20k+ views within a week** for all **Shopify merchants** using React and Vite, turning user behavior into **AI-generated insights** to improve conversions and identify friction points
- Integrated **rrweb to capture frontend interactions**, stored replays in AWS S3 and managed metadata with Supabase and PostgreSQL
- Developed a backend with Node.js and Express.js to **ingest session data**, using OpenAI for **summarizing rage clicks, engagement metrics and optimization opportunities** on a custom dashboard

AI Financial Portfolio Advisor – 3rd Winner | *Python, PyTorch, Pandas, NumPy*

- Developed a market-meet robo-advisor utilizing LSTM **neural network** with 30 hidden units and MinMaxScaler normalization, while maintaining optimal Sharpe ratios, achieving **88.32%** of market benchmark performance
- Implemented statistical arbitrage strategy by engineering **multi-threaded** Monte Carlo simulation with **10,000** concurrent iterations, handling real-time currency conversions and minimizing broker fees across a $1M portfolio

TanVentures | *HTML, CSS, Pug, Node.js, Express.js, MongoDB, Mongoose.js, Nodemailer, AWS EC2*

- Utilized an AWS EC2 instance to deploy a **server-side** rendered online tour marketplace with **Pug** templating and pagination integrated with **Nodemailer** for password reset emails and developed exception responses

Doctors on Blockchain – JamHacks 8 Winner | *Python, PyTorch, MySQL, MATLAB, NEAR*

- Utilized **CNN deep learning** model using Python, achieving 85% accuracy in early cancer detection from microscopic tissue images, reducing diagnosis time from weeks to seconds and improving patient outcomes