HASEEB AHMED

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Education

University of Waterloo — Waterloo, ON
*Master of Mathematics in Computer Science **GPA: 4.0/4.0*** — *September 2023 – May 2025*
- Awards: International Master's Award of Excellence

Lahore University of Management Sciences (LUMS) — Lahore, Punjab
Bachelor of Science in Computer Science — *September 2019 – May 2023*
- Awards: Dean's list. Graduation with Distinction.

- Coursework: Data Structures and Algorithms, Object Oriented Programming, Network Security, Distributed Systems, Machine Learning, Data Science and Computer Architecture.

Technical Skills

Languages: Python, JavaScript, TypeScript, Go, C, C++, Kotlin, Haskell
Frameworks & Libraries: Docker, Node.js, React, Flask, SB-3, RLlib, Jenkins
Developer Tools: GCP (Compute Engine, Cloud Run), AWS (S3, EC2), Azure, GitHub, CI/CD, Ansible, OpenTelemetry, Jira, Linear, MySQL, PostgreSQL, BigQuery, Redis, Hadoop

EXPERIENCE

Data Systems Group - University of Waterloo — September 2023 – Present
Graduate Research Assistant - Supervisor: Sujaya Maiyya — *Waterloo, ON*
- Developed an Oblivious Relational Database System with a scalable, layered architecture, supporting Search, Aggregate, Range and Join queries, ensuring privacy against inference attacks and leveraging Go for Concurrency.
- Integrated C++ and Go-based Oblivious Key-Value stores as the data storage layer. Ensuring cross-compatibility between different codebases.
- Achieved a $\times 31$ increase in throughput through concurrency and parallel request processing, outperforming state-of-the-art sequential oblivious database systems that suffer from scalability limitations.
- Integrated OpenTelemetry for distributed tracing and observability, enhancing performance monitoring, while leveraging Ansible to automate cloud deployments and configuration management.

National Research Council Canada — January 2025 – Present
Software Development Intern — *Waterloo, ON*
- Developing AI agents for network intrusion detection and response by leveraging Large Language Models (LLMs) to enhance Reinforcement Learning (RL) training.
- Engineering Graph Neural Networks (GNN)-based solutions for real-time network modeling and traffic analysis, optimizing the autonomous agents decision making.

Sugarwish — April 2024 – January 2025
Software Engineer — *Denver, CO*
- Developed over 50 internal applications using Retool (JavaScript), accelerating time-to-market by **60%**.
- Designed and implemented multiple analytics dashboards (React, Plotly) for inventory management, reducing overstocking by **70%**.
- Built custom integrations that streamlined external vendor onboarding, reducing setup time by **80%** and increasing annual revenue by **$100,000**.
- Engineered API integrations across Shopify, ShipStation, USPS, and FedEx, accelerating product launches, automating label generation and reducing shipping costs by **15%**.

Tajir (Y-Combinator) — June 2022 – August 2022
Full Stack Engineering Intern — *Lahore, Punjab*
- Developed a Python-based module for competitor price aggregation and analysis, enhancing market responsiveness by **30%**.
- Implemented an end-to-end Zendesk integration for the Customer Support Department, enhancing user support and reducing complaint resolution time by **50%**.
- Integrated WhatsApp into a Kotlin-based Android app, improving user experience and streamlining communication.

PROJECTS

Web Affordability | *Python, Selenium, Data Analysis* — January 2023 – May 2023
- Analytical Research on understanding the affordability of web pages and videos in low-income countries.
- Examined overhead from excessive JavaScript, improper image formats, and intrusive advertisements.
- Paper Published in SIGCOMM 2023.

LEADERSHIP

Coding Guru 4.0 - IEEE (LUMS) — January 2025 – Present
Convener — *Lahore, Punjab*
- Directed a team of 20+ members to deliver Pakistan's premier competitive coding competition.
- Oversaw technical infrastructure, including development of contest problems, automated testing systems and registration platform.
- Managed logistics for over 100+ participants, coordinating accommodations, catering and networking events.