

# HASEEB AHMED

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## Education

### University of Waterloo

Master of Mathematics in Computer Science **GPA: 4.0/4.0**

- Awards: International Master's Award of Excellence

Waterloo, ON

September 2023 – May 2025

### Lahore University of Management Sciences (LUMS)

Bachelor of Science in Computer Science

- Awards: Dean's list. Graduation with Distinction.

Lahore, Punjab

September 2019 – May 2023

- 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, Scikit-learn, RLib, SB3, Keras, NumPy, Pandas, Matplotlib, 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 (Remote)

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

Software Engineer 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.