

Rahul Aggarwal

✉ rahulaggarwal1016@gmail.com

📄 raggar.github.io

🐙 @raggar 🌐 in/raggar

Education

University of Waterloo | Bachelor of Software Engineering

09/2020 – 04/2025

SE Entrance Scholarship (1 of 10) '20, President's Scholarship of Distinction '20, Dean's Honours List

Work Experience

Incoming Research Engineer Intern @ **Cartesia** 🐙 San Francisco, CA

05/2025 – 08/2025

Ramp | Software Engineer Intern 🐙

05/2024 – 08/2024

New York, NY

- Created an SMS platform to streamline reimbursement submission, receipt-match, and expense categorization; managed feature roadmap, engineering decision designs, testing, and deployment to **90%** of customers
- Led an engineering-wide initiative to refactor all outbound communications logic into a modular **Python** library

Snowflake | Software Engineer Intern 🐙

01/2024 – 04/2024

Bellevue, WA

- Developed a framework to fetch and process entities in a streaming fashion to scale SQL "SHOW" commands to **15M+** rows and reduce memory usage by **~20%**; led migration efforts for the two largest enterprise customers
- Conceived the architectural design, including outlining **Java** class dependencies and iterating on feedback, for Storage Lifecycle Policies, a SQL syntax for customers to archive expired data and save on storage costs
- Deployed a command-line tool to enable disk-level analysis of a user's files, volumes, and access credentials

Cockroach Labs | Software Engineer Intern 🐙

05/2023 – 08/2023

New York, NY

- Architected internal SQL commands within **CockroachDB** to compute key and value statistics from distributed database clusters; reduced engineering investigation time by **17%** across **10+** support escalations
- Spearheaded optimizations to concurrent file compaction and memory-table write operations as well as created **Go** scripts to benchmark and analyze performance; achieved a **9%** increase in database write speed
- Proposed the implementation for an in-memory table to track insertions and optimize duplicate key writes

Waabi | Software Engineer Intern 🐙

09/2022 – 12/2022

Toronto, ON

- Owned the end-to-end development of a web annotation tool that automates road-labelling geometry and improves data annotation speed by **2.7x**; released and documented a **Go API** for easy cross-team integration
- Added support for batch queries with dynamic specifications to be used within a graphics compute engine, leading to a **17%** decrease in simulation load time and **68%** drop in CPU utilization across several workloads

Faire | Software Engineer Intern 🐙

01/2022 – 04/2022

Toronto, ON

- Redesigned search recommendations to support **30+ million** entries using **Apache Spark**; leveraged parallel processing as well as **Redis** caching and resource tuning to lower average job time from **2 hours** to **6 min**
- Created a **Kotlin** service to process cross-border tax data, ensuring real-time updates to product restrictions

Leadership

Hack the North 🐙 Backend Developer '22, Frontend Developer '21

09/2021 – 06/2023

- Maintain and scaled **GraphQL** API to support Canada's largest hackathon; receives **~3.2 million** monthly requests
- Built a hardware checkout tool with **Typescript**, **Prisma**, and **PostgreSQL** to be used annually by **1000+** hackers

UWaterloo Entrepreneurship Society 🐙 Founded Project Janus, a portal to help local startups hire students 2021

Skills

Languages | C++, C, Python, Java, Go, TypeScript, SQL

Tools & Technologies | AWS, Docker, Kubernetes, Git, PostgreSQL, Redis, Node.js