

Karanvir Heer

karanvirheer88@gmail.com
karanvirheer.com

github.com/karanvirheer
linkedin.com/in/karanvirheer

Experience

Government of Ontario

Software Engineer

January 2023 — August 2023

- Junior Software Engineer collaborating with cross-functional teams to build features, automate and execute tests, contributing to scalable **microservices** architecture
- Developed **RESTful API** integrations in **Java** to automate end-to-end messaging validation, reducing test runtime by **80%** and improving **CI/CD** reliability
- Engineered and maintained automated **load, integration, and regression test** suites in Java for high-traffic APIs, implementing **OAuth 2.0** token handling to ensure secure authentication and cross-role message delivery
- Led the migration of the team's automation framework from **Java 8 to 17**, modernizing libraries, refactoring backend test logic, and improving execution performance and system stability

Enbridge

Security Engineer

May 2021 — December 2021

- Engineered automation scripts in **Python** and **SQL** to parse compliance data and generate real-time dashboards, streamlining cybersecurity audit workflows and ensuring adherence to TSA mandates across 3,000+ accounts
- Built and integrated **role-based access control (RBAC)** and **multi-factor authentication (2FA)** logic into internal systems using **SailPoint, LDAP, and OAuth**, strengthening identity governance and reducing unauthorized access risk
- Developed custom **ServiceNow** workflows and backend logic to automate user provisioning and access approvals, reducing manual effort for thousands of employees and improving compliance traceability

Skills

Languages: Java, Python JavaScript, HTML, CSS, SQL, Bash, Punjabi

Technologies: Docker, Git, Unix, Jenkins, AWS, Azure, React.js, Node.js, PostgreSQL

Expertise: Full Stack Web Development, Backend Engineering, Testing & APIs, Databases, IAM, Product

Projects

Statflix

Personalized recap of your Netflix viewing habits

August 2025

- Built a full-stack analytics platform with **Node.js, Express, React, PostgreSQL, and Docker** to parse Netflix history.
- Implemented fuzzy-matching algorithms in **JavaScript** and **PostgreSQL** to normalize titles and improve accuracy.
- Designed a **PostgreSQL** caching layer with a 32K-title dataset, reducing metadata lookup from seconds to milliseconds.
- Containerized and deployed services with **Docker** to Vercel + Render, integrating **SQLite** and **CI/CD** workflows.

Student Marketplace

Advertisements website for TMU students

January 2024

- Enabled students to post, filter, and message about ads using **React, Java, and Spring Boot**.
- Built dashboards for users and admins to manage listings, textbook exchanges, study groups, and communications.

Education

Toronto Metropolitan University (formerly Ryerson University)

Computer Science Co-op (B.Sc), CGPA: 3.82

September 2020 — April 2024

- Coursework: Data Structures & Algorithms, Databases, Machine Learning, Data Mining, Data Science, Computer Architecture, Computer Networking & Security, Web Applications, Computer Graphics, Operating Systems