

# Karan Gosal

karangosal9779@gmail.com | (778) 245-8552 | linkedin.com/in/kgosal03 | github.com/kgosal03

## Education

University of Victoria, BC

Sept 2021 – Dec 2025

Bachelor of Software Engineering, Artificial Intelligence and Machine Learning (GPA: 8.7/9.0)

## Experience

Full-Stack Developer – Co-op

August 2023 – April 2024

Advanced Research Computing Dev Team, University Systems, Victoria, BC

- Increased performance for a Django application by 62% with Redis using cache-aside and write-back strategies.
- Optimized database throughput using Celery for asynchronous task management, reducing queries by 59%.
- Boosted UI testing efficiency by 30% through a Docker-based Selenium Grid, enabling parallel test execution and CI/CD integration.
- Decreased third-party API usage by 95% by optimizing GeoJSON handling, reducing external dependencies and costs.
- Engineered a Django package that enabled the ingestion of Excel sheets into databases, resulting in a 40% reduction in data processing time and streamlined workflows for data management teams.
- Partnered with clients to understand project goals and delivered UI/UX design enhancements that aligned with user needs and increased stakeholder satisfaction

Quality Assurance Analyst – Co-op

May 2023 – Aug 2023

VertiGIS, Victoria, BC

- Achieved 90% test coverage by analyzing software functionality, performance, requirements, user stories, and use cases, ensuring robust quality assurance.
- Logged and managed 50+ defects in Azure DevOps, driving timely resolution and maintaining product quality through effective report generation.
- Executed 250+ tests across functional, regression, integration, and end-to-end scenarios, aligning deliverables with business and technical standards; managed test cycles and CI builds via Azure DevOps.
- Developed and maintained 60+ automated test scripts using TypeScript, Selenium, Mocha, and Chai; enhanced suite reliability by migrating to async APIs, reducing flakiness and runtime significantly.
- Onboarded and trained a new team member, accelerating their ramp-up by 30% and sustaining high team productivity.

## Technical Skills

**Programming Languages:** Python, TypeScript/JavaScript, Java, C/C++, Bash, Assembly, SQL, HTML/CSS

**DevOps & Cloud:** Docker, Kubernetes, Azure DevOps, REST APIs, AWS, Vercel, Supabase

**Databases:** PostgreSQL, MySQL, MongoDB, Redis

**Testing & QA:** Selenium, Mocha, Chai, JUnit, Pytest, SonarQube

**Frameworks & Libraries:** Django, React, Node.js, Celery, Express.js

**Certifications:** AWS Certified Cloud Practitioner, MATLAB Onramp

**Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Computer Networks, Database Systems, Software Engineering, Machine Learning & Data Mining, Fundamentals of Artificial Intelligence

## Projects, Leadership & Volunteer Experience

Smart Lighting Automation System – Personal Project

- Developed an automated outdoor lighting system with Arduino and relays, reducing energy consumption by 35% through fault-tolerant circuit design and rigorous testing

Orientation Leader – University of Victoria

- Independently led orientation for a group of 50+ new students annually, facilitating campus tours and coordinating community-building activities to ensure a smooth and inclusive transition