

Sourav Minhas

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EDUCATION

Carleton University, Department of Computer Science

Sep 2022 – Apr 2027

Honours Bachelor of Computer Science: Artificial Intelligence & Machine Learning - Co-op

Ottawa, Ontario

- **Awards/Achievements:** Dean's Honour List, General In-Course Scholarship, VRC Robotics Design & Build Award
- **Minor, Standing & GPA:** Mathematics, Fourth Year, 10.0/12.0 (A-)

TECHNICAL SKILLS

Languages: Python, C++, C, Java, Go, SQL, JavaScript, Bash, HTML, CSS, Scheme, Prolog

Libraries: PyTorch, TensorFlow, pandas, scikit-learn, Matplotlib, Hugging Face Transformers

Frameworks/Tools: React, Node.js, Express, Qt, JavaFX, PUG, OpenCV, Postman, Jira, Git, GitHub, GitLab, SQLite

DevOps/Cloud: Docker, Podman, Kubernetes (OpenShift), Helm, Ansible, Jenkins, OpenStack, AWS, GCP

Operating Systems: Linux (Ubuntu, Red Hat Enterprise Linux), Windows, macOS, QNX

WORK EXPERIENCE

Nokia

Jan 2026 – Present

Automation Engineer Co-op

Kanata, Ontario

- Improved automated test frameworks for the **NEDR** platform using **Java**, **JUnit**, and **Spring Boot**, writing and running tests to validate system behavior, regression coverage, and security level checks across multiple containerized services
- Built and supported NEDR deployment workflows using **Docker**, **Kubernetes**, and **OpenShift**, developing **Go**-based tooling and integrating **CI/CD** pipelines with **Jenkins**, **GitLab**, and **Ansible** across cloud and baremetal environments
- Worked within an **Agile/Scrum** team, participating in sprint planning, stand-ups, and reviews while contributing to sprint deliverables across testing, deployment, and validation tasks in collaboration with many cross-functional teams

Software Support Co-op

Sep 2025 – Dec 2025

- Investigated and resolved **Jira** tickets related to network and device management, API calls via **Postman**, workflow issues, DR setups, database restores in **SQL/PostgreSQL** and IP and MDM configurations, ensuring product reliability
- Deployed and managed **OpenStack** VMs hosting applications, using **Kubernetes**, **Podman**, and **Linux** to troubleshoot systems, monitor services via **Grafana/Prometheus**, and validate APIs, enhancing platform reliability for customers
- Debugged and maintained platform code, implementing fixes in **Python** and **Bash**, documenting changes, and integrating updates into the NSP codebase via **GitLab** and **Jenkins**, improving system reliability and long-term maintainability

Pepperdata

Jun 2025 – Aug 2025

Software Engineer Intern

Toronto, Ontario

- Developed scalable **PyTorch** workloads on **AWS** and **GCP** with **Kubernetes**, building reproducible training and benchmarking pipelines with **Docker** and **Jenkins** to collect GPU metrics, analyze performance trends, and cut cluster costs
- Implemented a GPU benchmarking suite that measured performance and cost efficiency across diverse fine-tuning and batch inference workloads, integrating results with Pepperdata's optimization platform to reduce GPU costs up to **70%**
- Built a tool that transcribed **100+** videos using **Whisper** and leveraging **Vertex AI** with **GKE** and **EKS** to preprocess and fine-tune an **LLM-based QA model** that enabled employees to review design discussions quickly and effectively

PROJECTS

PiVision

QNX | Raspberry Pi 5 | Python | OpenCV

- Built a distributed vision processing system with a **QNX-based Raspberry Pi 5** capturing video via **Camera Module 3**
- Implemented Windows server pipeline in **Python** using **OpenCV** to process videos uploaded over a local device network
- Evaluated detection results using **MediaPipe** confidence scores, observing consistent performance above an **80%** mark

Elevator System Simulator

C++ | Qt | Qt Creator | Linux

- Developed a real-time multi-elevator system in **C++/Qt**, modeling concurrent events and state transitions accurately
- Engineered a centralized control system using **Qt** slots and signals, achieving **100%** uptime under repeated stress tests
- Designed an event-driven **MVC** architecture separating UI, control logic, and domain state models clearly and cleanly