Sourav Minhas

416-451-9682 | souravsminhas@gmail.com | LinkedIn | GitHub | Website

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, SQL, JavaScript, HTML, CSS, Bash, Scheme, Prolog
Libraries: PyTorch, TensorFlow, pandas, scikit-learn, Matplotlib, Hugging Face Transformers
Frameworks/Tools: React, Node.js, Express, JavaFX, Qt, PUG, Postman, Jira, Git, GitHub, GitLab, SQLite
DevOps/Cloud: Docker, Podman, Kubernetes, Jenkins, OpenStack, AWS, Google Cloud Platform (GCP)
Operating Systems: Linux (Ubuntu, Red Hat Enterprise Linux), Windows, macOS

WORK EXPERIENCE

Software Support Co-op Sept 2025 – Dec 2025
Nokia *Kanata, Ontario*

- 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**, **k9s**, **Podman**, and **Linux** to troubleshoot systems, monitor services, and validate APIs, enhancing platform reliability and performance for customers
- Debugged automation scripts, implementing fixes in **Python** and **Bash**, documenting changes, and integrating them into the NSP codebase via **GitLab** and **Jenkins**, streamlining the deployment and logging processes for any future changes

Software Engineer Intern June 2025 – Aug 2025
Pepperdata *Toronto, Ontario*

- 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%**
- Developed scalable **PyTorch** workloads on **AWS** and **Google Cloud** with **Kubernetes**, building reproducible training and benchmarking pipelines with **Docker** and **Jenkins** to collect GPU metrics and cut cluster costs for many customers
- 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

Digital Image Classifier Nov 2024 – Dec 2024
AI Developer *Ottawa, Ontario*

- Developed a Convolutional Neural Network in **Python** using **TensorFlow** for highly robust image classification tasks
- Optimized the model's performance with **Adam**, achieving **80%+** validation accuracy through tuning hyperparameters
- Leveraged **pandas** data loading, augmentation, and preprocessing to enhance and streamline the classification tasks

GeoDasher – Pathfinding AI Oct 2024 – Nov 2024
AI Model Developer *Ottawa, Ontario*

- Built an ensemble AI in **Python** using reinforcement learning and genetic algorithms to optimize pathfinding tasks
- Produced a **Pygame**-based simulation to analyze AI behaviour, focusing on pathing logic and performance optimization
- Utilized **Matplotlib** visualizations to monitor AI learning trends, reward structures, and error rates throughout training

Ghost Hunt Game Nov 2023 – Dec 2023
Backend Developer *Ottawa, Ontario*

- Built a multithreaded game simulation in **C** on **Linux**, employing semaphores and mutexes to manage synchronization
- Designed modular gameplay with linked lists and arrays for user's evidence collection and managing room connections
- Enhanced performance by using **Makefiles** and **Valgrind** to detect and resolve memory leaks, improving overall stability