Sat Arora

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US & Canadian Dual Citizen – No work permit required

EDUCATION

University of Waterloo — GPA: **91.4%**

Bachelor of Computer Science (Artificial Intelligence Specialization) — *Sep. 2021 – Apr. 2026*

- Awarded **1 of 10** René Descartes National Scholarships **($20000)** from the Waterloo Faculty of Mathematics
- President of the Waterloo Computer Science Club; cofounded events, initiatives, and the CS Class Profile

EXPERIENCE

Software Engineer Intern — May – Aug. 2025

Snowflake — *Menlo Park, CA*

- Part of the **Workload Optimization** group, building query insights for customers to improve queries

Software Engineer Intern — Sep. – Dec. 2024

Ramp — *New York, NY*

- Enhanced merchant identification accuracy by **70%** through an **embedding vector centroid search of receipt OCR data**, with additional LLM queries for **auto-classification** of merchant categories
- Spearheaded the integration of **WhatsApp authentication** into authentication flows, enabling a projected **1,000+ customers** per month to adopt MFA
- Led the backend overhaul of mileage reimbursements, adding live GPS tracking, auto-generated receipts, deduction of personal commutes, and the option to pin and use frequent trips – see more on this blog post!

Infrastructure Engineer Intern — May – Aug. 2024

Matroid — *Palo Alto, CA*

- Accelerated Docker container startup time by **50%** by removing redundant pre-loaded models and optimizing computer vision code in Python, resulting in faster deployment with leaner dependencies
- **Engineered a real-time device detection system** that seamlessly synchronizes connection data to MongoDB clusters, enabling on-premise compute systems to automatically discover and utilize devices for live monitoring
- Integrated cameras as **live video sources** into Matroid, enabling **real-time inference without extra latency** compared to livestreams, ensuring instant analysis and decision-making for time-sensitive applications

Software Engineer Intern — May – Aug. 2023

Miovision — *Kitchener, ON*

- Implemented REST endpoints to configure traffic detection devices with a new Advanced Transportation Controller (ATC) standard using **Java** and **SQL**, deploying to **3000+ intersections in North America**
- Led the backend development of a new flexible export jobs feature using **C#/.NET** for the new traffic study experience **impacting all customers**, allowing users to export reports based on filters and user permissions

Data Engineer Intern — Sep. – Dec. 2022

Ontario Ministry of Finance — *Toronto, ON*

- Reduced database migration time to a **SQL** server solution by automating the extraction of data from old databases, resulting in **90%** faster total extraction time and **saving over 1 month** in the migration process

PROJECTS

Class Activation Mapping and Object Detector | *Python, PyTorch/Torchvision, Matplotlib, NumPy, CUDA*

- Trained a face-detection **CNN** using 2000+ images and tested with 500+ images, achieving **99%+** accuracy
- **Extracted image heat maps** for classes using **Global Average Pooling** on the CNN's final convolutional layer, which identified the location of dominant facial features with high accuracy
- Generalized the heat map process to work with **multiclass classifier models**, tested on **100+** classes

WatIamLOST (Hackathon Winner) | *React Native, TypeScript, Express.js, MongoDB, Figma*

- Simulated a free classroom finder and a study room booking system for students to navigate the UW campus

TECHNICAL SKILLS

Languages: Python, C/C++, Java, JavaScript/TypeScript, Bash, SQL, C#, .NET, R, Racket
Technologies: Node.js, MongoDB, Express.js, AWS/S3, PyTorch/Torchvision, NumPy, Pandas, Apache Spark, Hadoop, CUDA, Linux, Docker, Kubernetes, Datadog, DHCP, Java Swing/AWT, Electron, Firebase, Git, React.js, Angular.js