

# Guneet Kaur

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## EDUCATION

### University of Alberta

Bachelor of Science in Computer Science (Specialization)

Edmonton, Alberta

Sept. 2023 – Aug. 2027 (*Expected*)

## EXPERIENCE

### UR2PhD Scholar

Department of Computing Science, University of Alberta

Sept 2025 – Present

Edmonton, AB

- Developing **Python/C++ tools** for TAR/ZIP analysis with **content-defined chunking**, targeting **30%** duplicate data reduction.
- Researching **deduplication algorithms** with Dr. Paul Lu, culminating in a seminar and project report.

### Full Stack Developer

Daylily\* AI (Daylily Software Inc.)

Aug 2025 – Present

Remote

- Collaborating with **clients** to gather requirements and translate them into tailored **AI-driven web solutions**.
- Building and deploying **full-stack features** to enhance **customer engagement and product scalability**.

### Research Intern

School of Mathematics and Computer Science, Indian Institute of Technology Goa (IIT Goa)

May 2025 – July 2025

Goa, India

- Developed **3+ control algorithms** for flow battery management, reducing energy loss simulations by **25%**.
- Collaborated on **research** for programmable flow systems, aiming for **future IEEE publication**.

### Teaching Assistant

Department of Computing Science, University of Alberta

Jan. 2025 – Present

Edmonton, Alberta

- Graded **400+ assignments** and led **35 labs**, improving student averages by **15%**.
- Cut grading turnaround from **4 to 1.5 days** using **Python automation scripts**.

## ACHIEVEMENTS

### natIgnite Hackathon - 1st Place, \$6,000 in seed funding

Network for Applied Technology (NAT)

August 2025

Edmonton, Alberta

- Built **TrustLine**, a real-time deepfake scam-call detector with **React Native and FastAPI**.

### DevCon Hackathon - 2nd Place, \$1,000 cash prize

Edmonton Unlimited

March 2025

Edmonton, Alberta

- Built **RideSafe**, a real-time transit safety app with ViT-based threat detection using **React Native & Flask**.

## PROJECTS

### Signal Vault | Python, JS, HTML/CSS, Node.js

May 2025 - Present

- Developing an **offline-first search engine** supporting emergency access for **100+ terms** during outages.
- Achieved **90% faster search** response via optimized **localStorage-based caching system**.

### SWC Website (Client) | React, Tailwind CSS, Firebase

May 2025 - Present

- Delivering a responsive automotive website with **15+ dynamic pages** across car listings and services.
- Integrated **CMS with Firebase** to support real-time updates by non-technical staff.

### Bias Visualizer Chrome Extension | JavaScript, HTML/CSS, FastAPI, Python

May 2025

- Built Chrome extension to compare **30+ trending terms** across Google Trends and Reddit.
- Enabled **real-time text analysis** with a FastAPI backend processing **500 queries/sec**.

### 3D Ray Tracing Renderer | C, Makefile

Sept. 2024 – Dec. 2024

- Built ray tracing engine supporting **7+ object types** and realistic lighting in **less than 20ms/frame**.

## TECHNICAL SKILLS

**Languages:** Python, Java, C, SQL, HTML/CSS, JavaScript, TypeScript, R

**Frameworks:** React Native, Node.js, React, Express, Flask, FastAPI

**Developer Tools:** Git, Visual Studio Code, Bitbucket, Makefile, Docker, Linux, AWS, Google Cloud

**Testing/QA:** Automated testing (unit, integration, regression), test strategies, CI/CD pipelines, QA concepts

**Collaboration:** QA/DevOps collaboration on debugging, automation, distributed systems, and REST APIs