

# Harman Singh

## SUMMARY

4th-year engineering student seeking an internship, available May - December 2025.  
Experienced in fullstack, backend, frontend, and mobile development.

## WORK EXPERIENCE

**Internal Tools Developer Intern**

May 2024 - Present

CienaOttawa, ON

- Reduced security vulnerabilities on company devices by developing a backend API using **FastAPI** and **Python** to allow the security team to manage vulnerable assets.
- Planned the development** of an entire backend, frontend and database migrations to ensure a final product for the security team by the end of my term.
- Ensured secure access to backend resources by implementing **authentication and authorization** using JWTs and Okta
- Automated builds and deploys to allow the security team to view the latest information on company devices and vulnerabilities
- Currently developing Next.js frontend and setting up infrastructure

**Software Engineer Co-op**

January 2024 – April 2024

Wave FinancialToronto, ON

- Developed and maintained various microservices, using **Python** and **Django**, improving system stability and user experience.
- Created user interfaces for the mobile application with **100,000+** active users, using **React Native**, **HTML**, **CSS**, **JavaScript**, **TypeScript** and **GraphQL**.
- Optimized **AWS S3** infrastructure resulting in **\$2,000+** in yearly savings
- Reduced response times to incidents by Implementing automated **Slack** alerts
- Contributed to an interactive catalog of Storybook components and corresponding Jest **unit tests**, reducing time spent on manual testing.
- Developed **SQL** queries for **AWS Redshift** to analyze **tens of thousands** of data points for the Machine Learning team, facilitating data-driven decision-making.

**Programmer Co-op**

June 2023 – September 2023

Centre for Biodiversity GenomicsGuelph, ON

- Improved database performance, security, and stability for an independent research institution with the world’s largest repository of DNA barcode data (**tens of millions** of specimen records) by migrating from PHP 5.3 to PHP 8.1.
- Spearheaded the first-ever comprehensive code review of the database access layer, documenting bugs and identifying unnecessary code.
- Led adoption of the PHPUnit library for unit testing, developing **hundreds of unit tests** using **Bash** scripts, significantly reducing manual testing.
- Modernized and refactored outdated **PostgreSQL** queries to unlock additional features, improve readability, and increase maintainability.

## SELECT PERSONAL PROJECTS

**Six-Axis Robot Arm**

- Designed and engineered a **3D-printed** robotic arm capable of 360-degrees range of motion.
- Developed code to control motors using **Arduino** and **C++**, later migrated to **Raspberry Pi** and **Python**.
- Drafted design in **SolidWorks** and modified open-source models in **Fusion 360**.

## CONTACT

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## SKILLS

**Languages & Web Frameworks**

- Python
- HTML
- React Native
- JavaScript
- SQL
- C
- Java
- PHP
- Assembly
- MATLAB

- Django
- CSS
- React
- TypeScript
- GraphQL
- C++
- Terraform
- R
- VHDL

**Tools & Concepts**

- AWS
- PostgreSQL
- Frontend
- REST APIs
- Observability
- Monitoring
- 3D-printing
- Fusion 360
- Raspberry Pi
- Agile/Scrum
- SolidWorks
- Object-oriented Programming (OOP)

- Fullstack
- Unix
- Backend
- Web dev
- JSON
- Datadog
- Redshift
- Arduino
- RPC
- Git
- JIRA

## EDUCATION

**University of Guelph**

*Bachelor of Engineering*

Engineering Systems & Computing

2021 - 2026 (expected)

GPA: **3.81/4.0**

## AWARDS

**University of Guelph - Engineering Design Day Competition (2023)**

*1<sup>st</sup> Place*

Led a team of 6 engineers to design and construct a fully functional 3D-printed crossbow at the scale of a Kinder Egg toy, winning 1st place out of 50+ teams of 300+ students.