

# Pratik Narendra Gupta

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## SUMMARY OF QUALIFICATIONS

A versatile and detail-oriented Software Engineering student with a strong foundation in object-oriented programming, cloud technologies, and machine learning. Experienced in developing and deploying scalable applications using Python, Java, JavaScript, AWS, and Docker. Proven ability to lead and collaborate in cross-functional teams, manage complex projects, and apply data-driven analysis to solve real-world business problems, resulting in significant cost savings and process improvements.

## EDUCATION

### Bachelor of Science, Software Engineering

2021-2026

Western University, London, Ontario

- Dean Honors list - 3<sup>rd</sup> year
- University of Western Ontario Distinction Scholarship (top 10%) 2021

## WORK EXPERIENCE

### Software Developer & Product Owner – Capstone Project

May 2024 - Present

*Sponsored by Canada Basketball*

- Developing CourtSense, an automated system that uses computer vision to analyze 3x3 basketball gameplay from broadcast videos, providing strategic insights to coaches.
- Contributing to full-stack development across the UI, API, data, and QA layers, with a primary focus on building and evaluating computer vision and machine learning models.
- Ensuring high code quality through mandatory pull request reviews, CI/CD pipeline management, and adherence to a strict, shared Definition of Done (DoD).

### CO-OP Packaging Engineer Ajinomoto Foods North America (California)

May 2024 - April 2025

*Ajinomoto Foods North America (California)*

- Database Architecture & Migration: Led the consolidation of over 26,000 packaging data points into a new central database (Product Vision). Analyzed over 750 legacy specifications to design a streamlined schema, reducing attributes to 31 essentials through collaboration with R&D, Procurement, and New Product Introduction teams.
- Cost-Saving Analysis: Developed a Python-based tool using Pandas and NumPy to analyze case similarities with the Euclidean distance formula. Identified over \$150,000 in potential annual savings through corrugate case consolidation.
- Executive Presentation: Presented the cost-saving analysis findings to senior leadership, including the CEO and Chief Supply Chain Officer.
- Cross-Functional Data Support: Served as the primary data resource for major company initiatives, providing critical packaging data for 17 new robot palletizing systems and sustainability reporting to major clients like Kroger and US Foods.
- System Customization: Designed and configured a dynamic reporting template within the Product Vision system to automate the generation of standardized specification sheets for cross-functional teams.

### VP of Project at Western Artificial Intelligence

2023 - 2024

- Leading a year-long program for students, enabling them to develop and deploy AI applications showcased at major conferences like CUCAI.
- Demonstrated exceptional time management skills, balancing multiple priorities to meet deadlines and deliver high-quality results.
- Enhancing team support and technical assistance to multiple coding teams for project development.

### Software Engineer at WE-Bots

2023 - 2024

- Collaborating on developing an innovative communication system, enabling real-time inter-module communication within robotic systems to enhance their positional awareness and coordination.
- Contributing to programming robots to execute tasks efficiently, utilizing the newly developed communication system for seamless collaboration.
- Applying advanced AI skills to enhance the robotic program with autonomous decision-making capabilities reduces reliance on pre-programmed instructions and enables adaptive responses to complex scenarios.

### Developer at Western Artificial Intelligence

2022 - 2023

- Using hardware combined with Artificial Intelligence to investigate brain signal processing.
- Modelling neural activity using machine learning and data analysis to emulate signal processing from your brain to your body's limbs. This could be useful to create advanced artificial limbs that the brain can control.
- Represented university at CUCAI (Canadian Undergraduate Conference on Artificial Intelligence)

## PROJECT EXPERIENCE

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### Home Server

2023 - present

- Architected a scalable and secure home server utilizing Docker for containerization, with Traefik as a dynamic reverse proxy to automatically manage network routing and SSL certificate acquisition for all hosted services.
- Engineered a multi-layered security framework by leveraging Cloudflare for DNS management and protection against DDoS attacks, significantly enhancing the server's public-facing resilience.
- Integrated Google OAuth into the reverse proxy middleware to enforce secure, single sign-on (SSO) authentication for internal services, providing granular access control without relying on a traditional VPN.
- Deployed CrowdSec, an automated intrusion prevention system, to proactively analyze traffic, detect malicious behavior, and block threats in real-time across the network.
- Created a custom Next.js dashboard to monitor and manage server services, providing a user-friendly interface for visualizing crucial statistics from an integrated MySQL database.

### Customer Purchase Recommendation System

May 2024 – April 2025

- Developed a Python-based recommendation tool using TensorFlow, Pandas, NumPy, and Scikit-Learn, achieving 96% accuracy in predicting customer purchases.
- Designed an intuitive user interface with Next.js and deployed the system on an AWS EC2 instance for scalable performance.

### Game Database

2023-2024

- Creating a comprehensive database model, initiating a robust conceptual model built with ER modelling techniques and following Agile Methodologies to make sure that the project is completed within time.
- Seamlessly integrated Xbox and Stream APIs to augment the system's capabilities, enabling real-time data retrieval, updates, and dynamic content.
- Used NextJS (React) framework to create the user interface and provide web-based access to the database system.

### Superhero Search Database

2023-2024

- Utilized various web development tools, such as HTML, JavaScript, Rest API, AJAX, and NextJS.
- Engineered a Rest API endpoints for connecting users to superhero and various information related.
- Designed and developed a user-friendly front-end interface for effortless interaction with the API.

## SKILLS

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**Programming Languages:** JAVA, C++, Python, MATLAB, HTML, JavaScript, CSS and BASH

**Cloud and Development Tools:** Docker, AWS, Kubernetes, Git and Bootstrap

## HONORS AND AWARDS

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**University of Western Ontario Distinction Scholarship** – Awarded scholarship for outstanding academic record (top 10%)

2021