

Om Patel

ompatel.ca | linkedin.com/in/ompatel24 | github.com/ompatel-24

EDUCATION

Carleton University

Ottawa, ON

Bachelor's of Computer Science, Concentration in Artificial Intelligence & Machine Learning, Honours **May 2027**

- Coursework: Data Structures, Algorithms, Machine Learning, Functional Programming, & Statistical Analysis.

EXPERIENCE

CIMS

Ottawa, ON

Data & Backend Engineer

Apr 2025 – Present

- Engineered scalable **data pipelines** using TypeScript, integrating custom APIs to streamline data preprocessing, **model training**, and deployment.
- Optimized data storage in **MinIO** & **MongoDB** for efficient feature extraction and real-time querying during ML inference.
- Collaborated cross-functionally, ensuring robust **documentation** and **version control** for reproducible code.

Full-Stack Software Developer

Sep 2024 - Apr 2025

- Led a **cross-functional team** in developing an interactive storytelling website for a **Yukon government** historical landmark, enhancing visitor engagement through immersive 3D experiences and interactive UI components
- Implemented chunked preloading for image assets, measured via Lighthouse, **reducing load times by 50%** and optimizing website deployment using Next.js, Three.js, and GSAP.
- Optimized performance through lazy loading, code refactoring, and HTTP caching, significantly enhancing user responsiveness.

PROJECTS

Meal Snap | *Python, PyTorch, YOLO, LLM, Next.js, MongoDB*

Mar 2025

- Won **1ST Place** at Western AI's DataQuest Hackathon for creating an AI-powered meal planning tool that transforms fridge photos into recipe suggestions.
- Trained a **computer vision** model using YOLO v12 with **96% accuracy** in detecting fridge ingredients.
- Implemented an LLM to parse natural language inputs and leveraged MongoDB to search for matching recipes.

Times AI iOS App | *Swift, SwiftUI, iOS App Development*

Apr 2024 – Jul 2024

- Developed and launched an iOS app, achieving **300+ downloads** and maintaining a **5 star rating**, leveraging Swift and SwiftUI for a seamless user experience.
- Integrated ML models for real-time error detection, analyzing user performance to provide personalized learning recommendations, improving accuracy.

Full Stack Art Gallery | *JavaScript, HTML, CSS, SQL, Databases, Handlebars, REST API*

Apr 2024

- Built a social networking platform for art enthusiasts using React, Node.js, and the MET Museum API, enabling **50+ users** to upload, comment, and discuss artwork.
- Designed a responsive UI with React.js and optimized backend performance by reducing server response time leveraging Node.js and SQLite.

Web Crawler & Search Engine | *Java, Python, JSON*

Oct 2023 – Dec 2023

- Developed a **multi-threaded web crawler**, scraping **10,000+ webpages** with parallel processing and storing structured data in JSON
- Integrated Google's PageRank algorithm, improving search result relevance and enabling efficient ranking of webpage importance.

TECHNICAL SKILLS

Languages: Python, TypeScript/JavaScript, C/C++, Java, Swift, SQL, Objective-C, Haskell, Visual Basic

Frameworks & Libraries: PyTorch, TensorFlow, Pandas, React.js, Next.js, Node.js, SwiftUI, Three.js, GSAP

DevOps & Tools: Git, MongoDB, AWS, Azure, SQLite, Vercel, CI/CD, Bash, Linux

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