

Om Patel

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EDUCATION

McMaster University

Hamilton, ON

B.A.Sc. in Honours Computer Science (Co-op), Minor in Statistics

Sep 2022 – Present

- **Relevant Coursework:** Machine Learning, Computer Systems, Algorithms, Databases, Software Testing, Computer Networks, Data Privacy, Probability & Statistics
- **Awards:** Dean's Honour List, Engineering Award of Excellence, Junior Future Engineers

TECHNICAL SKILLS

Programming Languages: Python, C, C++, Java, JavaScript, R, SQL, MATLAB, Bash

Frameworks & Libraries: TensorFlow, PyTorch, Scikit-learn, OpenCV, MediaPipe, FastAPI, Pandas, NumPy, Matplotlib

Tools & Technologies: Docker, Git, REST APIs, Apache Airflow, Visual3D, Cortex, CI/CD

Domains: Machine Learning, Deep Learning, Reinforcement Learning, Computer Vision, Signal Processing, Data Privacy, Biomechanics

EXPERIENCE

Quality Assurance Analyst

June 2025 – Present

Holland Bloorview Hospital | Toronto, ON

MATLAB, Visual3D, Cortex, Python, Data Pipelines, QA Automation

- Designed and automated MATLAB pipelines for clinical motion capture data analysis, increasing throughput by 30%.
- Integrated Visual3D and Cortex for real-time biomechanical analysis, improving data reliability and system efficiency.
- Developed QA procedures that ensured 100% accuracy and compliance with integrity standards.
- Authored and standardized processing protocols in collaboration with interdisciplinary teams.

AI & ML Developer

Sep 2024 – April 2025

MacAI | Hamilton, ON

Python, TensorFlow, PyTorch, MediaPipe, OpenCV, Docker

- Engineered end-to-end ML pipelines, reducing training time by 30% through optimized preprocessing and feature selection.
- Developed a 12-layer CNN for image classification on a 50K+ dataset, achieving 95% accuracy and 25% faster inference.
- Integrated reinforcement learning to personalize user feedback, improving correction efficiency by 40%.
- Containerized training and inference workflows with Docker, enabling scalable CI/CD deployment.

Software Programming Instructor

May 2024 – Aug 2024

Ultimate Coders | Toronto, ON

Python, JavaScript, Java, C++, HTML/CSS

- Delivered hands-on instruction to 100+ students, maintaining a 90%+ satisfaction rate and strong engagement metrics.
- Created modular projects and live coding demos that improved student proficiency by 30% in four months.

Administrative Assistant

Jun 2021 – Jan 2022

BAPS Charities | Toronto, ON

Power BI, SQL, MS Office, DBMS, Git, Python

- Developed SOPs and Power BI dashboards for standardized reporting across four departments.
- Maintained high-integrity donor and project databases, ensuring 90%+ accuracy in reporting.
- Collaborated with cross-functional teams to refine data collection workflows, improving accuracy by 20%.

PROJECTS

Real-Time Pose Analysis System

FastAPI, MediaPipe, OpenCV, TensorFlow, PyTorch, Scikit-learn

- Built a real-time pose recognition system (99% accuracy, 30 FPS) leveraging MediaPipe and deep learning.
- Implemented RL-based corrective feedback with OpenCV overlays and joint angle analytics.
- Automated motion segmentation across 10K+ frames using sliding window and statistical thresholds.

GANHide: GAN-Based Steganography System

Python, TensorFlow, NumPy, Pandas, Matplotlib, GAN, CNN

- Designed cGANs to embed 8-bit messages within 8×8 grayscale images, ensuring imperceptibility.
- Built a CNN decoder achieving 97% training and 98% validation recovery accuracy.
- Automated visual and histogram analysis to ensure imperceptibility and robustness.