

Om Patel

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Kitchener, Ontario - N2A0A3, Canada

OBJECTIVE

Computer Science student seeking a co-op position to apply strong problem-solving and programming skills in projects involving data, automation, and intelligent systems. Eager to contribute to meaningful work while building practical experience and growing as a collaborative team member.

EXPERIENCE

- Holland Bloorview Kids Rehabilitation Hospital** Jun 2025 - Aug 2025
Quality Assurance Analyst Toronto, ON
 - Designed 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 efficiency.
 - Developed QA procedures that ensured 100% accuracy and compliance with integrity standards.
 - Standardized processing protocols in collaboration with interdisciplinary teams.
- McMaster Artificial Intelligence Society** Sep 2024 - April 2025
AI & ML Developer Remote
 - Built ML pipelines that reduced training time by 30% through streamlined preprocessing and feature selection.
 - Built a 12-layer CNN that delivered 95% accuracy and 25% faster inference on a 50K+ image dataset.
 - Integrated reinforcement learning to personalize user feedback, improving correction efficiency by 40%.
 - Containerized training and inference workflows with Docker, enabling scalable CI/CD deployment.
- Ultimate Coders** May 2024 - Aug 2024
Software Programming Instructor Remote
 - Instructed 100+ students in programming, sustaining 90%+ satisfaction and high engagement.
 - Designed coding projects and live demos that improved student proficiency by 30% in four months.
- BAPS Charities** Jun 2021 - Jan 2022
Administrative Assistant Toronto, ON
 - 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%.

EDUCATION

- McMaster University** Sept 2022 - Present
B.A.Sc. in Honours Computer Science (Co-op), Minor in Statistics Hamilton, Canada
 - Relevant Coursework:** Machine Learning, Computer Systems, Algorithms, Databases, Software Testing, Computer Networks, Data Privacy, Probability & Statistics

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 8x8 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.

SKILLS

- **Programming Languages:** Python, C, C++, Java, JavaScript, R, SQL, MATLAB, Bash
- **Web Technologies:** FastAPI, REST APIs, JavaScript, HTML, CSS
- **Database Systems:** MySQL, SQLite
- **Data Science & Machine Learning:** TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, Matplotlib, OpenCV, MediaPipe
- **Cloud Technologies:** AWS, Google Cloud Platform, Microsoft Azure
- **DevOps & Version Control:** Docker, Git, GitHub, GitLab CI/CD, Apache Airflow
- **Specialized Area:** Machine Learning, Deep Learning, Reinforcement Learning, Computer Vision, Data Privacy
- **Mathematical & Statistical Tools:** MATLAB, R, NumPy, SciPy, Statistics
- **Other Tools & Technologies:** Visual3D, Cortex, Jupyter, VS Code, Linux Shell
- **Research Skills:** Signal Processing, Biomechanics, Experiment Design, Data Analysis, Technical Writing, Literature Review

HONORS AND AWARDS

- **Dean's Honour List**
McMaster University
- **Engineering Award of Excellence**
McMaster University
- **Junior Future Engineer Award**
StemComp 2020
 - Awarded at one of Ontario's largest STEM competitions for a TEG-powered vehicle waste recovery concept to reduce emissions.