Om Patel

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EDUCATION

McMaster University   Hamilton, ON
Bachelor of Applied Science in Honors Computer Science (Co-op), Minor in Statistics   *09/2022 – Present*

- **Relevant Coursework:** Computer Systems and Architecture, Machine Learning, Algorithms and Complexity, Databases and SQL, Probability and Statistics, Data Privacy, Software Testing, Computer Networks and Security
- **Awards:** Engineering Award of Excellence, Dean's Honor List

TECHNICAL SKILLS

Programming Languages: Python, C, C++, Java, JavaScript, SQL, R, MATLAB, HTML, CSS, Bash
Technologies: Docker, Git, REST API, TCP/IP, WAN/LAN, Wireshark, GraphQL, Cisco Packet Tracer, Apache Airflow
Tools and Libraries: TensorFlow, PyTorch, NumPy, Pandas, OpenCV, NLTK, MediaPipe, FastAPI, Matplotlib, SciPy, Scikit-learn
Cloud: AWS {EC2, S3}

EXPERIENCE

AI & ML Developer   Sep 2024 – April 2025
MacAI | Hamilton, ON   *Python | TensorFlow | PyTorch | MediaPipe | OpenCV | NumPy | Scikit-learn | Docker*

- Designed data pre-processing & feature engineering, reducing training time by 30% and boosting accuracy by 12%.
- Developed deep learning models—including a 12-layer CNN on 50,000+ images—achieving 95% test accuracy and 25% faster inference.
- Integrated RL-based adaptive feedback mechanisms, improving user correction rate by 40%.
- Containerized ML workflows with Docker and set up CI/CD for scalable production deployments.

Software Programming Instructor   May 2024 – Aug 2024
Ultimate Coders | Toronto, ON   *Python | JavaScript | Java | C++ | HTML | CSS*

- Delivered a modular curriculum in Python, Java, and C++, maintaining 90%+ student satisfaction across 100+ learners.
- Mentored students through hands-on projects, increasing code proficiency by 30% over one semester.

Administrative Assistant   Jun 2021 – Jan 2022
BAPS Charities | Toronto, ON   *MS Office | DBMS | Adobe Suite | Git | Power BI | Python | SQL*

- Streamlined project coordination using Asana and Power BI, increasing team efficiency by 20%.
- Maintained donor/project databases with 90%+ accuracy and created weekly reports for leadership.
- Developed a document management system and automated reminder workflows, reducing administrative overhead by 30%.

PROJECTS

Real-Time Pose Analysis System (MacAI Club Project)
FastAPI | MediaPipe | OpenCV | NumPy | Pandas | TensorFlow | Scikit-learn | Matplotlib | Flask | PyTorch

- Built a 99%-accurate pose recognition system with MediaPipe, FastAPI, and TensorFlow, processing 30 FPS video streams.
- Developed RL-based adaptive feedback, using OpenCV for annotated visual corrections and joint angle calculations.
- Automated sequence segmentation and motion analysis on 10,000+ frames with sliding window algorithms.

GANHide: GAN-Based Steganography System (Personal)
Python | TensorFlow | NumPy | Pandas | Matplotlib | GAN | CNN

- Used cGAN to hide 8-bit messages in 8×8 grayscale digits, achieving stego-image indistinguishability (D Acc 50%).
- Built TensorFlow CNN Extractor with 97% train / 98% val bit-recovery accuracy.
- Automated Matplotlib visual and histogram checks for imperceptibility and recovery robustness.

Algorithmic Maze Solver (Personal)
C | Prim's Algorithm | DFS | SVG | libxml

- Implemented a maze generator using Prim's algorithm, generating over 100 unique maze patterns in under 2 seconds.
- Developed a solver using DFS with backtracking, reducing solution time by $\sim$ 20% compared to brute-force methods.
- Rendered mazes as scalable SVG images, improving visualization clarity and accessibility for up to 100 users concurrently.