Nevin Toms

nevintoms.ca@gmail.com | github.com/nevintoms | linkedin/nevin-toms | +1 (437)-566-4973

Toronto, Ontario | My Portfolio | leetcode.com/nevin_toms

PROFESSIONAL SUMMARY

Data Scientist with **3.5+** years of hands-on experience building and deploying production-grade ML systems. Skilled in **Python**, **MLOps**, and **cloud deployment** using **AWS**, with deep expertise in **TensorFlow, PyTorch, Scikit-learn**. Adept at transforming data science prototypes into scalable, reliable applications through robust **CI/CD**, performance optimization, and collaborative engineering. Passionate about advancing AI accessibility and delivering high-impact, data-driven solutions.

PROFESSIONAL EXPERIENCE

Data Scientist II
April 2024 – Present

Steer Health, Toronto, Canada

- Developed and deployed **Retrieval-Augmented Generation (RAG) pipelines** combining semantic search, prompt engineering, and LLM-based summarization, improving chat precision by 7%, while implementing **systematic LLM evaluation frameworks** to measure factual accuracy, hallucination rates, and bias in outputs.
- Designed and deployed end-to-end **ML pipelines** on **AWS** using **SageMaker** for **model training** and **deployment**, integrated with **S3**, **Lambda**, and **CloudWatch** for **automated data workflows** and **performance monitoring**.
- **Designed**, **trained**, and **optimized ML models** within an **MCP-based multi-tool agent** to automate discharge summary referrals — including LLM-driven information extraction, specialty prediction, slot availability checks, and appointment booking — **reducing manual review by 99%**.
- Redesigned search systems using **embedding based vector similarity** using **MongoDB Atlas** and **Elasticsearch**, improving search relevance by **11%.**

Data Scientist - Intern
October 2023 – March 2024

Kevares Autonomous Services, Oshawa, Canada

- Achieved 89% accuracy in detecting infrastructure deficiencies (cracks, potholes, sidewalk gaps) using **semantic segmentation models (UNet, FCN)** and **object detection** (**YOLOv8**), integrating **LLM-based defect description generation** to produce human-readable inspection reports for municipal use.
- Developed **Python-based data preprocessing and feature extraction pipelines** to handle large image datasets, enabling scalable deployment across multiple municipalities.

Data Scientist
March 2022 – August 2023

Prevalent AI, Kerala, India

- Applied c**lustering, fuzzy logic**, and **Soundex algorithms** to normalize entity names across multiple datasets, later integrating **BERT-based embeddings** to improve cross-source name matching accuracy by **20%.**
- Implemented **anomaly detection and topic modeling (LDA)** to identify unusual SQL queries, Active Directory anomalies, and irregularities in Windows Event Logs — improving **security-risk detection by 25%**.
- Worked with **large-scale datasets** from multiple sources, building **end-to-end data pipelines** using **AWS**, **Airflow**, and **DBT** to ingest, clean, and transform data into centralized assets for analytics.
- Applied **forecasting and predictive techniques** to anticipate device instability, reducing downtime and saving **$200K annually**.

Junior Data Scientist
July 2021 – March 2022

Prevalent AI, Kerala, India

- Built **centralized data models** in **Amazon Redshift** and **SQL Server**, integrating data from multiple sources into a unified inventory tracking system, increasing accuracy by **38%** and reducing reporting time by **25%**.

- Developed and implemented a **recommendation engine** and **feature ranking techniques**, boosting overall security score by **13%**. The system identified and prioritized critical security measures for targeted mitigation, enhancing the organization's security posture.
- Managed **Qualys vulnerability management system**, automating data extraction and visualization of 24 control indicators and two executive dashboards in **Tableau and Power BI**, improving **risk visibility by 22%**.

SKILLS

- Python, R, Flask, LangChain, PyTorch, TensorFlow, SQL, Git, Hadoop, Statistics, Scikit-learn, NoSQL, Spark
- Machine Learning (Decision Tree, Random Forest, XGBoost), Deep Learning, Natural Language Processing, Hugging Face Transformers, Docker, CI/CD workflows(GitHub Actions, Airflow)
- AWS Sagemaker, AWS cloud, AWS Bedrock, DataBricks, BigQuery, Tableau, Power BI, LLM fine-tuning, MLOps(MLflow, ZenML, Kubeflow), OpenAI.

EDUCATION

Centennial College, ON, Canada September 2024 - April 2025
Graduate Certificate | Cybersecurity | GPA - 8.9/10

Humber College, ON, Canada September 2023 - April 2024
Graduate Certificate | Artificial Intelligence with Machine Learning | GPA - 9.2/10 (Dean's List)

Model Engineering College, Kerala, India August 2017 - March 2021
Bachelor of Technology | Computer Science | GPA - 8.8/10

PROJECTS

Customer Satisfaction Prediction with MLOps (github link)

- Built an **end-to-end ML pipeline** to predict customer satisfaction, covering **data ingestion, preprocessing, model training, evaluation, and deployment**.
- Implemented **MLOps best practices** using **MLflow** and **ZenML** for model tracking, versioning, and reproducible workflows.
- Optimized model performance and reliability through automated **testing, validation, and monitoring**, ensuring seamless deployment.

Parking Space Counter Using Image Processing (github link)

- Developed a **computer vision system** to automatically detect and count available parking spaces in real-time from CCTV images.
- Utilized **image processing techniques** including edge detection, contour analysis, and object detection to identify occupied and vacant spots.
- Achieved **high accuracy in varied lighting and weather conditions** through adaptive thresholding and preprocessing.

Smile Generation Using GANs (github link)

- Developed a **Generative Adversarial Network (GAN)** to transform unsmiling facial images into smiling expressions.
- Implemented **image-to-image translation** using convolutional GAN architecture to maintain facial identity while adding realistic smiles.
- Evaluated performance with **visual quality metrics and qualitative analysis**, achieving high-fidelity, natural-looking results.

CERTIFICATIONS

- AWS Certified AI Practitioner