Nitant Suhagiya

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Education

Toronto Metropolitan University — Toronto, ON
BSc. Computer Science with Minor in Mathematics — *Sept 2024 – May 2027*
Dean's List 2025

University of Regina — Regina, SK
Diploma in Computer Science, ***GPA 7.4/9*** — *May 2019 – June 2021*

Experience

Data Scientist — Sep 2026 – Present
Toronto Metropolitan University — *Toronto, ON*

- Formulated standardized data annotation protocols and automated pipelines for multi-planar ultrasound sequences, building high-quality ground-truth datasets to train and benchmark multi-view segmentation models.
- Engineered spatio-temporal deep learning segmentation models to track dynamic needle trajectories across 3 orthogonal ultrasound planes over time, advancing real-time precision for prostate cancer interventions.

Data Engineer Intern — May 2026 – Aug 2026
Canadian Nuclear Safety Commission (CNSC) — *Ottawa, ON*

- Engineered an automation ETL pipeline for reactor simulation software, reducing manual data preparation time by 70% and eliminating transcription errors across critical safety workflows.
- Processed and mapped 10,000+ structured records per run, enabling consistent, audit-ready data handoffs in a classified, federally regulated nuclear safety environment.

Senior Research Assistant — Feb 2026 – Present
CMIC Lab, TMU — *Toronto, ON*
Research Assistant — *Oct 2025 – Feb 2026*

- Collaborating with a multidisciplinary research team to study the social dynamics of computer-mediated communication (CMC).
- Analyzing behavioural and communication data using statistical tools to identify patterns related to deception detection and social prediction.

Projects

Pagenova | *Chrome AI assistant Extension (React, TypeScript, Vite)*

- Built a Chrome extension that grounds streaming AI chat in open tabs, uploaded documents, and images, supporting local Ollama and cloud providers (OpenAI, Anthropic, Gemini, OpenAI-compatible).
- Designed a budget-aware RAG pipeline (chunk → embed → retrieve) with on-device Transformers.js embeddings, IndexedDB vector storage, and automatic full-context vs. retrieval mode based on model window size.

Research

UM-GCN: Multiscale Label-Attention Graph Network for Chest X-Ray Classification | *(Submitted, SPIE Medical Imaging 2027)*

- Designed UM-GCN, a multiscale label-attention graph network that builds image-specific disease graphs from attention overlap, replacing fixed co-occurrence statistics with entropy-modulated message passing.
- Achieved macro-AUROC of 0.8318 and macro-AP of 0.3226 on ChestX-ray14, outperforming a tuned EfficientNet-B4 baseline through controlled ablations, with statistically significant AUROC gains confirmed via external validation on CheXpert.

Technical Skills

Languages: Python, Java, JavaScript, TypeScript, C/C++, SQL, PHP, HTML/CSS
Frameworks: React, Node.js, Express, Tailwind, FastAPI, Scikit-Learn, XGBoost, TensorFlow, Keras, PyTorch, Pandas, NumPy, Matplotlib, ONNX, Transformer, MCP, RAG, JAX, NLP, Computer Vision, LLM
Developer Tools: Git, GitHub, VS Code, Linux/UNIX, AWS, Power BI, Hugging Face, Flask, Docker, Jupyter Notebook, LangChain, LangGraph