

TOMMY TANG

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Education and Certifications

Azure Data Scientist Associate – Microsoft	2025
Graduate Certificate in Applied AI Solutions – George Brown College	2025
Master of Science in Molecular Genetics – University of Toronto	2024
Bachelor of Science in Neuroscience – University of Toronto	2021
Honors Degree with Neuroscience Specialization and Physics Minor cGPA: 3.72/4.00	

Work Experience

Data Scientist Lunenfeld-Tanenbaum Research Institute Toronto, ON <i>Python, PyTorch, CNNs, U-Net, FastAPI, Streamlit</i>	05/2025 – Present
- Developed a PyTorch-based semantic segmentation pipeline for electron microscopy volumes using novel CNN architectures, improving automated analysis and reproducibility. - Designed ETL workflows to convert heterogeneous microscopy data into model-ready image/mask datasets and applied extensive data augmentation (200x training set increase) for more robust generalization on images. - Logged experiments and tuned hyperparameters with Weights & Biases, improving in-house F1-score from 0.51 to 0.75 and saving 1,000+ human annotation hours per dataset. - Implemented a production-ready FastAPI inference API with volume construction, paired with a Streamlit UI for accessible, interactive use by research teams.	
Robotic Vision Engineer Gighat Inc. Remote <i>Python, YOLO, OpenCV, ONNX, Docker, Robotics</i>	03/2025 – 03/2026
- Adapted state-of-the-art computer vision models such as YOLOv11 to curated datasets, improving object classification and anomaly detection by 75% over baseline. - Deployed deep learning models to robotic edge devices, optimizing inference speed with TensorRT and ONNX, achieving 53ms latency reduction per frame. - Applied MLOps best practices including model versioning, containerization, and monitoring to ensure scalable and maintainable production deployments. - Managed end-to-end ML project lifecycle from requirements gathering to deployment, following Agile/Scrum practices with 2-week sprints and retrospectives.	
Research Internship SickKids Research Institute Toronto, ON <i>Bash, R, MATLAB, PCA, ANOVA, MRTrx3</i>	05/2021 – 08/2021
- Built a custom diffusion tensor imaging (DTI) pipeline to process 300,000+ brain images on a compute cluster, enabling large-scale analysis of pediatric brain tumor data. - Conducted PCA and statistical analyses with R to evaluate relationships between white matter integrity and behavioral data, linking together critical information for ongoing clinical trials. - Utilized Git/GitHub for collaborative development, managing pull requests and code reviews across a 5-member team.	

Projects

Multi-Modal Stock Prediction Analysis Python, TensorFlow, RNNs, SLMs, Transformers	01/2025 – 02/2025
- Designed and implemented multi-modal deep learning architectures for short-term stock price prediction. - Trained RNN, LSTM, CNN models and fine-tuned BERT, achieving 0.983 accuracy for news sentiment analysis. - Performed feature engineering on structured and unstructured data and enhanced predictive performance by ensembling RNN and Transformer models with bootstrap aggregation.	
Infarct Prediction Using CT Perfusion R, Logistic Regression, randomForest, ggplot2, ImageJ	09/2020 – 04/2021
- Developed and validated logistic regression and random forest models to predict ischemic stroke from CT perfusion. - Optimized model sensitivity and ROC-AUC accuracy by tuning cerebral blood volume thresholds (0.35ml/100g). - Created ggplot2 visualizations to communicate complex patterns and model outputs for non-technical stakeholders.	

Technical Skills

Languages: Python, R, Bash, Java, MATLAB, Javascript, HTML/CSS

Machine Learning & AI: PyTorch, TensorFlow/Keras, scikit-learn, Transformers, CNNs, RNNs, LLMs, GenAI

Data Science & Analytics: NumPy, Pandas, PySpark/Spark, Statistical Modeling, Hypothesis Testing, ANOVA, PCA, ggplot2, Matplotlib, Tableau, Alteryx

MLOps & Tools: Jupyter, Git/GitHub, Streamlit, FastAPI, Docker, Weights & Biases, HuggingFace

Databases & Cloud: PostgreSQL, MySQL, MongoDB, Azure, GCP