

WEI-TSE (WAYNE) TANG

Toronto, ON | (437) 676-8119 | Wei-Tse.Tang@georgebrown.ca | wayne891029@gmail.com

OBJECTIVE

Machine learning co-op position applying ML to imbalanced, high-stakes prediction problems such as credit risk, fraud detection, and healthcare screening. Available full-time, January – April 2027.

HIGHLIGHTS OF QUALIFICATIONS

- Built end-to-end ML pipelines in Python, lifting minority-class recall from 0.17 to 0.96 on 2.6%-positive data.
- Applied leakage-safe resampling, threshold tuning, and stratified cross-validation to rare-event problems.
- Verified results with feature-ablation experiments and multi-seed stability testing, not a single run.
- Delivered one year of production engineering on machine-vision inspection equipment, raising detection to 90%.
- Traced an ambiguous detection failure to high measurement-error variance through statistical analysis.
- Supported 2 semiconductor customers across 4 production tools, explaining fixes to their engineers on-site.
- Completing an Ontario College Graduate Certificate in Applied A.I. Solutions Development (Co-op).

TECHNICAL SKILLS

Languages: Python, SQL, C#, C, Java

Machine Learning: scikit-learn, pandas, NumPy, LightGBM, SMOTE (imbalanced-learn), GridSearchCV & threshold tuning, stratified k-fold CV, feature engineering & selection, model evaluation (recall / F2), matplotlib, seaborn

NLP: spaCy, NLTK, gensim (LDA, Word2Vec), sklearn-crfsuite, TF-IDF / bag-of-words / n-grams

Data & Big Data: MySQL (schema design, 3NF normalization, ETL), Hadoop / HDFS, Hive, Pig, MongoDB, SQL Server + SSIS

Tools: Jupyter, Git, Linux / VM environment setup, Playwright, BeautifulSoup

EDUCATION

George Brown College

Toronto, ON

Ontario College Graduate Certificate, Applied A.I. Solutions Development (Co-op)

May 2026 – Apr 2027 (expected)

- Coursework: Machine Learning 1 & 2 (NLP, computer vision), Applied Mathematical Concepts for ML, Big Data Technologies (Hadoop, Hive, MongoDB), Data Management (MySQL), Ethics & Law for Data Science

National Chiayi University

Chiayi, Taiwan

Bachelor of Engineering, Electrical Engineering

Sep 2019 – Jun 2023

Program Projects — Applied A.I. Solutions Development, George Brown College

Prescription Parser — Healthcare NLP Sequence Labeling | Python, sklearn-crfsuite, NLTK

Jul 2026

- Built a CRF sequence-labeling model that parses free-text prescriptions into structured FHIR labels.
- Reached 87% token-level accuracy on held-out prescriptions; wrapped the pipeline in a reusable predict() method.

News Topic Modeling with LDA | Python, gensim, spaCy, pyLDAvis

Jul 2026

- Preprocessed the 20-Newsgroups corpus and trained LDA topic models to a 0.48 coherence score, visualized with pyLDAvis.

AutoFeatureSelector — Automated Feature-Selection Tool | Python, scikit-learn, LightGBM

Jun 2026

- Built a tool that runs six feature-selection methods and votes across them to shortlist the strongest features.
- Applied it to the FIFA 19 player dataset (80+ attributes); delivered as a notebook and a reusable Python script.

Depression-Risk Classifier on Imbalanced Survey Data | Python, scikit-learn, SMOTE — team of 5

May 2026

- Co-built leakage-safe SMOTE pipelines and benchmarked five classifiers with GridSearchCV + threshold tuning on 2.6%-positive data, lifting minority-class recall from 0.17 to 0.96 (F2 0.96).
- Owned the **feature-ablation study** (CV-based drop-feature experiments, stratified 5-fold) and a **multi-seed stability test** (F2 0.92 ± 0.12); integrated the team's final notebook.

PROFESSIONAL EXPERIENCE

Application Engineer — Ruling (non-destructive testing / optical inspection equipment)

Taiwan • Apr 2024 – May 2025

- Designed optical-environment models and image-preprocessing steps for a camera-based FOUP purge inspection system measuring nozzle displacement against a 0.04 mm tolerance.
- Traced low detection rates to **high measurement-error variance** through statistical analysis of inspection data, then reworked the **C# processing flow and image-analysis method**, raising the detection rate to **90%**.
- Maintained the equipment's inspection software in **C#**, supporting **2 semiconductor customers across 4 production tools**.
- Installed, commissioned, and tuned inspection equipment on-site at customer facilities.
- Collaborated with customer engineers and internal software staff to translate on-site inspection failures into concrete software fixes, keeping equipment in service during production runs.