

Mu (Henry) Ha

Vancouver, BC | 519-503-5609 | mu2024ha@gmail.com
LinkedIn | GitHub | Portfolio | *Eligible for TN visa sponsorship*

PROFESSIONAL SUMMARY

Data Scientist with a Master of Data Science and a strong foundation in statistical modeling, deep learning, and computer vision. Expertise in developing predictive algorithms and conducting rigorous hyperparameter optimization. Proven ability to translate complex datasets into actionable insights through visualization and advanced analytics.

TECHNICAL SKILLS

Languages: Python, SQL, R, C/C++, Java, Bash, Git

Machine Learning: Regression/Classification, Time Series, NLP, Generative AI, Computer Vision

Data Analysis & Vis: Pandas, NumPy, Scikit-Learn, Matplotlib, Seaborn, Dash, Plotly

Deep Learning: PyTorch, TensorFlow/Keras, Hugging Face Transformers

Statistical Methods: Hypothesis Testing, A/B Testing, PCA, Monte Carlo Simulation, Stochastic Processes

PROFESSIONAL EXPERIENCE

Brilliant Automation | *Machine Learning Engineer (Capstone)* | Vancouver, BC Apr 2025 – Jun 2025

- Developed predictive maintenance models using Ridge Regression, Random Forest, and Long Short-Term Memory (LSTM) networks to forecast equipment failures.
- Conducted extensive feature engineering and structured error analysis to maximize inference accuracy while ensuring model interpretability for non-technical stakeholders.
- Designed and deployed an interactive Dash application to visualize real-time sensor data and historical health trends.

Resolution Life US | *AWS Cloud Engineer (Internship)* | Toronto, ON Sep 2021 – Apr 2022

- Delivered a standardized "golden image" for EC2 servers, streamlining the deployment process with preinstalled essential applications, with an increase of 80% in efficiency.
- Automated the generation of monthly dashboards to visualize RLUS's AWS usage, enhancing decision-making.

University of Waterloo | *Data Scientist Research Assistant* | Waterloo, ON Jan 2021 – Apr 2021

- Implemented and trained U-Net neural network architectures for semantic segmentation of satellite imagery, successfully classifying land, ice, and water surfaces.
- Achieved a validation MSE of 0.026 and 90% classification accuracy on geospatial datasets by systematically benchmarking multiple regression techniques and tuning hyperparameters to identify the optimal model structure.

KEY PROJECTS

Time Series Forecasting (Tesla Stock Analysis) | *Python, PyTorch, Transformers*

- Implemented Temporal Fusion Transformers (TFT) to analyze historical stock price data, executing hyperparameter tuning of input window sizes, attention dropout, and learning rate schedules to minimize RMSE and MSE.
- Outperformed classical baseline models and validated forecasting reliability through comprehensive statistical evaluation utilizing R-squared and explained variance metrics.

Statistical Model Monitoring System | *Python, Statistics, PSI*

- Developed a statistical monitoring engine to detect data drift and ensure inference consistency by tracking feature distribution shifts, calculating Population Stability Index (PSI), and analyzing prediction probability distributions.
- Benchmarked system reliability using p50/p95 latency metrics to validate stable real-time performance.

EDUCATION

University of British Columbia | *Master of Data Science* | Vancouver, BC Sep 2024 – Jul 2025

GPA: 91/100 | **Relevant Coursework:** Machine Learning, Deep Learning, Gen AI, NLP, Optimization, Time Series, Data Visualization.

University of Waterloo | *B.Sc. Mechanical Engineering (Honours), AI Option* | Waterloo, ON Sep 2018 – Jun 2024

Honours: Distinction | **Relevant Coursework:** Probability & Stochastic Processes, Computational Methods, Advanced Linear Algebra.