Mu Ha

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EDUCATION

University of British Columbia   Sept 2024 - July 2025 (expected)
Master of Data Science   *cGPA 91/100*
Relevant Coursework: Machine Learning, Deep Learning, Generative AI, Natural Language Processing, Big Data
Analytics, SQL & Database Systems, Optimization, Time Series Analysis, Data Visualization

University of Waterloo   Sept 2018 - Jun 2024
Bachelor of Mechanical Engineering, Honours, Co-op Program, AI Option, Msci Option   *cGPA 85/100*
Honours: with Distinction Dean's Honours List
Relevant Coursework: Multivariable Calculus, Advanced Linear Algebra, Artificial Intelligence, Reinforcement
Learning, Computational Methods, Probability & Stochastic Processes, Data Structures & Algorithms

WORK EXPERIENCE

Resolution Life US AWS Cloud Engineer (Sep 2021-Apr 2022)   **Toronto, Canada**
- 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 (Jan 2021-Apr 2021)   **Waterloo, Canada**
- Employed U-Net on satellite images to accurately predict ice concentration and classify land, ice, and water.
- Achieved a validation loss and MSE of 0.026 on egression, along with an 0.9 validation accuracy for classification.
- Tested multiple regression methods and model structures to identify and implement the most effective approach.

The Weir Group - Manufacturing Engineer (Sep 2019-Apr 2020)   **Surrey, Canada**
- Computed production costs for over 10+ products and created BOMs and Routings in SAP for streamlined processes.
- Conducted gasket compression tests and provided clients with comprehensive design specifications.
- Revamped and optimized the cost estimation spreadsheet, resulting in 30% faster and more efficient calculations.

The Weir Group - Design Engineer (Jan 2019-Apr 2020)   **Mississauga, Canada**
- Conceptualized and engineered a circular manifold for a chemical plant in Africa, while also retrofitting numerous spools for clients with extensive communication, possessing knowledge of the entire engineering cycle.
- Generated over 100 detailed drawings using Siemens NX, maintaining professional standards and precision.
- Thrived in a fast-paced environment, managing creation of 30+ drawings daily to meet project deadlines.

PROJECT EXPERIENCE

Machine Health Prediction: Predictive Maintenance and Monitoring Dashboard, *Python & Dash*   Apr 2025
- Developed a predictive maintenance system to monitor the health of industrial machines using sensor data.
- Built and trained machine learning models (Ridge, Random Forest, LSTM) to forecast potential failures, with a focus on balancing accuracy and interpretability.
- Created an interactive dashboard using Dash to visualize real-time machine health scores, historical trends, and alerts for maintenance scheduling.

Wall Painting Robot: Wall Segmentation with Deep Learning, *Python & PyTorch*   Feb 2024
- Implemented a wall segmentation algorithm using the Pyramid Scene Parsing Network (PSPNet) for our robot.
- Designed an encoder-decoder architecture with a PPM-based decoder for pixel-wise classification, evaluating multiple training strategies (transfer learning & end-to-end training) and achieving 92.13% accuracy and 72.58% IoU.
- Preprocessed data by flattening irregular wall segments, resizing images, and applying data augmentation.

Time Series Forecasting for TSLA Stock Prices with Machine Learning, *Python & R Studio*   Aug 2023
- Implemented Temporal Fusion Transformer to analyze historical time series data of Tesla (TSLA) stock prices.
- Performed hyperparameter tuning and model selection to optimize the forecasting accuracy, taking into consideration factors like input window size, attention dropout, and learning rate schedules.
- Evaluated model performance using metrics: MSE, RMSE, R^2, and explained variance.

SKILLS, ACTIVITIES & INTERESTS

Technical Skills: Python | C/C++ | Java | MATLAB | R language | SQL
Certifications: OOP in Java Specialization   Machine Learning & Deep Learning Specialization   Financial Market
                           AWS Cloud Practitioner   Data Structure and Algorithms in C/C++ Certificate   CFA Level I
Other knowledge: Reinforcement Learning | Controls | Mechanical Design & Manufacturing
Interests: Trading stocks, options & BitCoin | Created games | Aviation | First aid | Badminton