

Barry Chen

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EDUCATION

University of Toronto	Sep 2023 – Apr 2025 (Expected)
Master of Engineering (Specialized in Data Analytics & Machine Learning, Biomanufacturing)	Toronto ON
McMaster University	Sep 2017 – Jun 2023
Bachelor of Chemical Engineering & Management Co-op (Specialized in Process Systems Engineering)	Hamilton ON

SKILLS

Software: Microsoft Office Suite, MATLAB, GAMS, Simulink, Autodesk Inventor, Aspen Plus, Minitab, Tableau, Hadoop
Library: TensorFlow, PyTorch, Pandas, Polars, NumPy, SciPy, Scikit-learn, Keras, NLTK, Matplotlib, Seaborn, PySpark
Programming: Python, MATLAB, Rust, GAMS, HTML/CSS, SQL, Java, VBA

EXPERIENCE

Student Data Analyst University of Toronto	May 2024 – Aug 2024
Institute for Studies in Transdisciplinary Engineering Education & Practice	Toronto ON
<ul style="list-style-type: none">Increased accuracy by 30% via feature engineering and optimization of logistic regression and tree-based modelsIdentified 5 key challenges in engineering students' work-life balance using a GenAI-aided clustering approach	
Research Assistant McMaster University & eCampusOntario	Oct 2022 – Feb 2023
Faculty of Engineering	Hamilton ON
<ul style="list-style-type: none">Collaborated on designing 4 experiential learning modules for over 900,000 students and educators across OntarioOptimized student experience by evaluating over 40 activities on design thinking and engineering improvisation	
Research Assistant McMaster University	May 2022 – Aug 2022
McMaster Advanced Control Consortium	Hamilton ON
<ul style="list-style-type: none">Troubleshoot significant performance discrepancy between MPCs in MATLAB and Simulink, achieving 0% deviationResolved a continuous setpoints tracking issue, enabling testing in the Simulink reinforcement learning environment	
Technical Services Coordinator Thermo Fisher Scientific	May 2021 – Apr 2022
Data Management Team	Mississauga ON
<ul style="list-style-type: none">Facilitated manufacturing readiness by reducing TrackWise overdue items by 25% while ensuring GMP/SOP standardsAchieved Involvement Inspire award for helping project managers receive over 50 specification approvals in a week	
PROJECTS	
Machine Learning for Finance University of Toronto	Jan 2024 – Apr 2024
<ul style="list-style-type: none">Enhanced Tatsat's Bitcoin trading strategy by engineering 6 financial features and adding financial and stats metricsImproved accuracy by 30% over the baseline random forest model using optimized logistic regression models	
Could-Based Data Analytics University of Toronto	Jan 2024 – Apr 2024
<ul style="list-style-type: none">Optimized a movie recommendation system by reducing RMSE by 20% using Apache Spark in Databricks NotebooksDeployed 3 resources in Azure Cloud Platform to execute SQL queries, enabling efficient analysis on a large dataset	
Data Analytics & Machine Learning University of Toronto	Sep 2023 – Dec 2023
<ul style="list-style-type: none">Boosted price classification accuracy by 10% via KNN parameter tuning and feature selection using decision treeCut linear regression training time by 50% via optimizing batch size and learning rate in stochastic gradient descent	
Data Science & Analytics University of Toronto	Sep 2023 – Dec 2023
<ul style="list-style-type: none">Built n-class ordinal logistic regression and increased 10% performance via grid search and feature engineeringEnhanced functionality of a DQN-based trading bot by incorporating a feature of saving the most profitable models	
Chemical Engineering Capstone McMaster University & Hatch	Sep 2022 – Apr 2023
<ul style="list-style-type: none">Created a Python optimization tool for GPS-X, improving plant efficiency by over 20% while minimizing costsAwarded Best Industrial Application at McMaster Expo Day for showing business value in wastewater treatment	