

ALYSSA ZHANG

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EDUCATION

UNIVERSITY OF WATERLOO

BCS, Honours Computer Science (Co-op) | 2020-2025

- **Relevant Courses:** Algorithms, Database Management, Applied Linear Models, Object-Oriented Software Development, Data Structures & Data Management, Computational Statistics & Data Analysis, Applied Cryptography
 - Varsity Swim Team – 3x Athletic Financial Award recipient, OUA (provincial-level) bronze medalist
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SKILLS

Languages: Python, R, SQL, PL/SQL, C, C++, JSON, CSV

Tools/Software: Azure Machine Learning and Databricks, Oracle SQL Developer, SQL Server Reporting Services, Jupyter Notebook, Google Colaboratory, RStudio, Git, GitHub, Azure DevOps (Team Foundation Server), Apache Spark, PySpark, Keras & TensorFlow, Power BI, MS Word/Excel/Access, Python Libraries (Pandas, NumPy, Matplotlib, Scikit-Learn, SciPy)

Proficiencies: Data Mining, Natural Language Processing (NLP), Time Series Forecasting, Linear Regression, Dimensionality Reduction, K-Nearest Neighbors, K-fold Cross-Validation

EXPERIENCE

DATA SCIENTIST

SGS & Co | Sept-Current

- Conducted comprehensive **data cleaning**, feature engineering, and scaling using **Scikit-Learn** for a **regression** model to predict production task times; trained model using **XGBoost** and **Azure AutoML**

PROGRAMMER ANALYST

Ontario Ministry of the Attorney General | May-Aug 2023

- Streamlined **6** key quarterly reports through **data integration**, debugging queries, and simplifying interfaces to enhance usability; resulted in a **40%** reduction in report generation time and the full resolution of 2 previously unusable reports
- Migrated reports to the data warehouse by building **extract-transform-load** (ETL) pipelines using PL/SQL, consolidating with RDL
- Proactively initiated contact with the business to acquire current report and data specifications, resulting in accelerated project delivery

DATA SCIENTIST

Intact Financial Corporation | May-Aug 2022

- Analyzed possible improvements for **gradient boosting model** to predict claims that were likely to incur larger expenses
- Collaborated with cross-functional teams to analyze **3** new data sources to find metadata that could be linked to existing features
- Conducted **data wrangling** and **feature engineering** which increased the importance of existing features; introduced 24 new features to improve model performance
- Supported departmental POC pitch by extracting model statistics and exploring model correlation, challenging business hypotheses

MACHINE LEARNING SYSTEMS ENGINEER

Toyota Motor Manufacturing Corporation (TMMC) – Innovation Lab | Sept-Dec 2021

- Trained **convolutional neural networks** (CNN) with **YOLOv3** for 2 live computer vision systems; used **image classification** and **object detection** to identify vehicle part defects in production
 - Introduced new workflow to train deep learning model with **Mask-RCNN** to accommodate for polygon labeling; expedited training time by **50%** and improved precision by **33%**
 - Took proactive measures to identify potential live freight issues and presented solutions to General Managers for resolution
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