Oliver Zhou

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Education

Northwestern University **Evanston, IL**
Master of Science in Machine Learning and Data Science Dec 2024

- Relevant Coursework: Predictive Analytics Series, Database and Information Retrieval, Deep Learning, Data Mining, Analytics for Big Data, Data Warehousing and Workflow Management, Cloud Engineering for Data Science, Text Analytics, Predictive Models for Credit Risk Management

University of Michigan **Ann Arbor, MI**
Bachelor of Science in Statistics, Minor in Mathematics; Cumulative GPA: *3.84/4.0* May 2023

- Completed all required courses for a Business Minor offered by the Ross School of Business
- Scholarship: Veeam Software Endowed Scholarship in Data Analytics, 2021-2023 Academic Years
- Awards/Honors: James B. Angell Scholar (Winter 2022-Spring 2023; University Honor for All Semesters Enrolled

Technical Skills / Extracurricular

Programming: Python (ex. scikit-learn, NumPy, pandas, TensorFlow, Matplotlib, requests, etc.), R, SQL, SAS, Java
Relevant Platforms: Visual Studio Code, Jupyter Notebook, Snowflake, DataGrip, SQLite
Software: GitHub, Tableau, Power BI, Microsoft Office
Language: Chinese (Native), English (Professional Proficiency)
Campus Involvement and Leadership: University of Michigan Chinese Soccer Club: Captain; ImmersiveLIVE Drama Club: Starring/Associate Director; Applied Linear Algebra (MATH 214): TA/Grader

Working Experience

Little City Foundation **Chicago, IL**
Data Science Consultant *Sep* 2023 – Present

- Performed **feature engineering** to create responsive prospecting models (**classification**, **regression**, and **clustering**) that predict future donor categories/levels based on 25 years of data
- Identified outliers/influential points and modified models to find the optimal one by using different **variable selection methods** (Backward/Forward Selection, Regularization)
- Designed machine learning models in **Python** to investigate the previous donor behaviors and maintained 90%+ high-level donors; prepared and presented the executive summary

Nationwide Mutual Insurance Company **Columbus, OH**
Business Insights Analyst May 2023 – Aug 2023

- Analyzed 1,000,000+ rows of cognizant quality data and explored potential influences of processing time and number of touches on error rate; proved 15 assumptions using **hypothesis tests** in **R**
- Incorporated Nationwide and Allstate datasets and provided predictions of the combined loss ratio for 50 states of the National Retail Programs by joining tables using **SQL** queries
- Visualized the percentage difference between technical premium and premium in force in 41 states in the U.S. using **Tableau** by extracting relevant data (15+ columns and 100,000+ rows) from **Snowflake** by writing **SQL** queries
- Designed and produced Small Commercial Self Tracking dashboards that provide insight into daily operations to both the onshore and offshore teams to oversee the data transition process over the past 3 years

University of Michigan – Ross School of Business **Ann Arbor, MI**
FIN 302-Making Financial Decisions Course Instructor Jan 2023 – Apr 2023

- Selected as the recitation instructor from 130+ students to demonstrate complex finance concepts for a class of 150+

Michigan Institute for Data Science **Ann Arbor, MI**
Assistant in Research Apr 2022 – Apr 2023

- Explored the potential relationship between the local crime rate and team performance in 10 areas using **Excel** and **R**
- Conducted **data mining** on the dataset (100,000+ rows) to interpret connections between the modern esports industry and the traditional sports industry and quantified the difference

Research Project

Predictive Model Analysis for Profit Optimization Strategy in Telemarketing Centers of Banks (R)

- Developed 12 models using **ANN**, **KNN**, **logistic regression**, **SVM**, **Decision Tree**, and **random forest** to predict the telemarketing call results, assessed the performance of basic models, and tuned each model by **Cross-Validation**
- Linked to the business problem and implemented **loss matrix/function** to the previous models and produced a final deliverable containing qualitative contents analysis (**Precision**, **Recall**, **F1 Score**) along with the proof from modeling in a generally understandable tone to indicate the best **stacked model**

Future Stock Price Prediction of the Goldman Sachs Group Using Deep Learning Algorithms (Python)

- Designed 8 models in different structures to predict the future stock value of Goldman Sachs including **LSTM**, **SimpleRNN**, and **Conv1D Layer**
- Interpreted the accuracy, modified the number of units, and chose the most appropriate loss function
- Achieved an accuracy >99.97% for the best model based on a dataset containing daily market information from May 1999 to March 2022 (7 columns and 5,000+ rows)