Oliver Zhou

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Education

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

- Relevant Coursework: Predictive Analytics, 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; 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, Google Apps
Software: GitHub, Tableau, Power BI, Microsoft Office
Language: Chinese (Native), English (Professional Proficiency)
Campus Involvement and Leadership: University of Michigan Chinese Soccer Team: 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 to facilitate revenue growth
- Identified outliers/influential points and enhanced models to find the optimal one by using different **variable selection methods** (Backward/Forward Selection, Regularization), enhanced performance by 30%
- Constructed machine learning models in **Python** to investigate the previous donor behaviors and maintained 90%+ high-level donors; expanded mid-level donor portfolio by 56%

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

- Designed and implemented the **A/B testing** to investigate the potential difference in service accuracy between different markets and request types, boosted the productivity within the organization by 15%
- Incorporated Nationwide and Allstate datasets and created predictions of the combined loss ratio for 50 states of the National Retail Programs by using **SQL** on **Snowflake**
- Visualized the percentage difference between technical premium and premium in force in 41 states in the U.S. using **Tableau** to support pricing strategy in 30 states; aiding 70% revenue growth nationwide
- Analyzed 1M rows of cognizant quality data and explored potential influences of processing time and number of touches on error rate, guiding senior VPs to adjust relevant policies

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

- Generated **data visualizations** using **Excel** and **R** (dplyr, ggplot2, etc.), enabling data visibility in the esports industry
- Boosted **data mining** and **testing** on the dataset (100k rows) to pinpoint **causal inference** for the team's performance, local crime rate, and team franchise value

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

- Organized a class of 150+ students as the recitation instructor to demonstrate complex finance/economics concepts

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)