Ruolin (Catherine) Hao

haorlin@umich.edu | (734)-548-0494 | www.linkedin.com/in/ruolin-hao

Education

University of Michigan, Ann Arbor, MI, USA — May 2023 (expected)
- **Major:** Master of Science in Information, focus in Data Science and Analytics | **GPA**: 4.0/4.0

Sun Yat-sen University, Guangzhou, China — Jun 2021
- **Major:** Bachelor of Science in Geographic Information Science | **GPA**: 3.8/4.0
- **Minor:** Bachelor of Arts in English | **GPA**: 3.9/4.0
- **Scholarship:** Third-class Scholarship for Outstanding Student — Oct 2018

Coursework

- **In Progress:** Data Mining, Applied Machine Learning, Web Design
- **Taken:** Data Manipulation and Analysis, Applied Data Science, Information Visualization, SQL & Databases, Information Retrieval, Objected-oriented Programming, Data Structure, Probability and Statistics

Skills

- **Programming Languages:** Python, SQL, VBA, C, C++, JavaScript, HTML, CSS, R, Java
- **Software:** SQL Server, MySQL, Excel, Tableau, MATLAB, Mathematica, SPSS, PostgreSQL

Experience

Data Analyst | Greenwich Commodities LLC, Troy, MI, USA — Summer 2022
- Realized task automation of data crawling, processing, updating, and connection with databases
- Developed an interactive XLSM application to visualize National Weather Service data
- Predicted solar and wind plants generation for day-ahead scenarios using machine learning techniques

Data Analyst | Founder International Software Co., Ltd., Beijing, China — Summer 2020
- Conducted requirement analysis in database design of Intelligent Railway Project
- Organized brainstorming workshops among interns, tracked project status and provided feedback

GIS Data Analyst | SuperMap Software Co., Ltd., Harbin, China — Spring 2020
State Key Laboratory of Resources and Environmental Information System
- Acquired the use of Supermap iServer to process geographical data and conducted visualization

Projects

Mining Trading Signals among High Market Capacity Stocks in Nasdaq — Fall 2022
- Accessed stock price time series data with more than 5 billion market capacity via MarketStack API
- Conducted feature engineering based on trading signals, such as K-line patterns, Moving Average, etc.
- Ranked and demonstrated the predictive power of signals using Decision Tree and T-Test

Solar and Wind Plant Day-ahead Power Generation Forecast — Summer 2022
- Applied multiple Machine Learning models, and selected the optimal linear regression model
- Built and maintained databases for National Weather Service data and PJM power plant generation data
- Visualized the daily trend of generations using folium and provided insights for future market price

U.S. Electric Vehicle (EV) Market Dashboard — Winter 2022
(https://public.tableau.com/app/profile/ruolin.hao/viz/SI649FinalProject/Dashboard1?publish=yes)
- Developed a website presenting EV's geographic distribution and holding rate with Tableau Public
- Examined the patterns of EV market share and contributed to the decision-making to consumers

Used Cars Search Engine for Wolverines — Fall 2021
(medium.com/@haorlin/for-all-wolverines-heres-a-used-car-recommendation-system-just-for-you-2ded8d699f3d)
- Applied Beautiful Soup library to scrape used cars and their complaints data from Carfax and NHTSA
- Retrieved most relevant results using improved BM25 score and Learning to Rank approaches
- Utilized TextRank algorithm to extract keywords of car model reviews; displayed with word clouds

Extracurricular Activities

- Medium Blogger @haorlin — Dec 2021 - present
- Minister of Research Dept., Students' Union, Sun Yat-sen University — Sep 2017 - Jun 2019