

# HAOYANG LING

✉ hyfrankl@umich.edu    🌐 frankling2020.github.io    🌐 Haoyang Ling

## EDUCATION

### Master of Science in Information (Big Data Analytics Track)

University of Michigan, Ann Arbor

Apr 2024

Ann Arbor, MI

- Excelled in data analysis, data mining, and database applications coursework with GPA: 4.0/4.0.
- Acquainted with miniblog-like database web applications by Django, JavaScript, and Ajax.
- Unveiled research trends by word clouds of frequent n-grams in the CORD-19 dataset.

### Bachelor of Science in Electrical and Computer Engineering

Shanghai Jiao Tong University

Aug 2023

Shanghai

- Excelled in calculus, data science, probability, and programming coursework with GPA: 3.9/4.0.
- Obtained high praise for instructing students in physics and circuit theory as Teaching Assistant.
- Received Yu Liming Scholarship, GIFT Scholarship, and Undergraduate A-level Scholarship.

## PROJECT EXPERIENCE

### Data Analyst / Yelp User Analysis

University of Michigan, Ann Arbor

Nov 2022 - Dec 2022

Ann Arbor, MI

- Optimized the calculation of user similarity by the Min-Hash algorithm with **Spark MLlib**.
- Advanced the baseline accuracy (Adamic-Adar index) of link prediction by 2.2x with GraphSage.

### Big Data Analyst / Music Recommendation with Spark

Shanghai Jiao Tong University

Jul 2022 - Aug 2022

Shanghai

- Deployed Apache Drill and Spark with **Hadoop cluster** in Docker after three days of self-study.
- Compressed information in HDF5 files with a 2% ratio by **Apache Avro** for efficiency.
- Accelerated parallel breadth-first search with Spark 10x faster than that with MapReduce.

### Research Assistant / Contrastive Learning on Graph Representation

Shanghai Jiao Tong University

Mar 2022 - Aug 2022

Shanghai

- Summarized the commonalities between computer vision and graph neural networks.
- Proposed random masking and attention mechanism in the graph augmentation.
- Surpassed baseline models in 5 out of 9 datasets by tuning the model in the ablation study.

### Data Scientist / Housing Price Prediction in Illinois

Shanghai Jiao Tong University

Nov 2021 - Dec 2021

Shanghai

- Ranked top 5 out of 75 in the contest by adopting XGBoost and Random Forest after comparing various machine learning algorithms to analyze about 150k records of housing prices.

## WORK EXPERIENCE

### Consultant / User Experience Enhancement of BSP Assessment

Professional Consultation Services, Inc.

Sep 2022 — Dec 2022

Northville, MI

- Interviewed six participants and collected around 150 notes of raw data in the affinity wall.
- Streamlined the company workflow by delivering nine suggestions in the action-priority matrix.

### Engineering Intern / Diesel Exhaust Emission

Shanghai Diesel Engine Co., Ltd.

Jan 2021 - Feb 2021

Shanghai

- Revamped data pipeline and automated visualization for exhaust emission analysis in Python.
- Collaborated with colleagues in coding and debugging, and provided insights obtained from data analysis at weekly meetings.

## SKILLS

### Data Analysis

Python, SQL, Hadoop, Spark

### Machine Learning

Pytorch, Tensorflow, Sklearn

### Tools and Languages

C/C++, Java, JavaScript, Linux, Django, Git, Vivado

### Communication

English (Toefl 106), Chinese