

HAOYANG LING

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EDUCATION

Master of Science in Information (Big Data Analytics Track)

University of Michigan, Ann Arbor

May 2024

Ann Arbor, MI

- Excelled in mathematics, database, and natural language processing courses with a **GPA of 4.0/4.0**.
- Working as a graduate student instructor for data mining course for [Prof. Paramveer Dhillon](#).
- Trimmed the indexing time of a Wikipedia search engine for 1 million pages (7 GB) to 20 minutes.

Bachelor of Science in Electrical and Computer Engineering

Shanghai Jiao Tong University

Aug 2023

Shanghai

- Honored as **Outstanding Graduate with a GPA of 3.9/4.0** showcasing excellence in computer science.

WORK EXPERIENCE

Research Intern / Mcity AI Assistant and Safety Validation of Autonomous Vehicles

Mcity at the University of Michigan, under the supervision of [Prof. Henry Liu](#)

Apr 2023 – Aug 2023

Ann Arbor, MI

- Adapted existing work to construct a LangChain and React-based AI bot for Mcity with scraped content from hundreds of websites, achieving streamlined Docker deployment in ten minutes.
- Simulated the intricate driving behaviors in urban areas and roundabouts to facilitate safety testing.
- Leveraged Git for version control and issue tracking with a record of over 100 commits and extensive modifications spanning thousands of lines of code.
- Optimized traffic accident distributions through rich experiments and linear programming techniques, ensuring a high-precision match to real-world distributions under a 3% deviation.

PROJECT EXPERIENCE

Data Scientist / Movie Search Engine

University of Michigan, Ann Arbor

Oct 2023 – Dec 2023

Ann Arbor, MI

- Pioneered a novel dataset with 47 queries from specific genres to movie scenarios with 2760 manually labeled data points and identified limitations in genre drift and thematic interpretation.
- Led the development of a movie retrieval pipeline with LGBMRanker, surpassing the BM25 baseline by a 0.11 increase in NDCG and achieving better alignment with user intent.

Web Developer / ChatGPT-based Summarization Tool

University of Michigan, Ann Arbor

Mar 2023 – Apr 2023

Ann Arbor, MI

- Developed a ChatGPT-powered summarizer with React featuring keyword highlighting and readability scoring, resulting in increased user understanding, trust, and engagement.

Data Scientist / Machine-Generated Text Detection for ChatGPT

University of Michigan, Ann Arbor

Feb 2023 – Apr 2023

Ann Arbor, MI

- Innovated a machine-generated text classification technique using TF-IDF logistic regression, attaining 90% accuracy on par with BERT models across four datasets.
- Unveiled model robustness through data augmentation and underscored dataset design's role in model resilience after revealing a 5% performance drop due to sentence truncation.

Research Assistant / Contrastive Learning on Graph Representation

Shanghai Jiao Tong University

Mar 2022 – Aug 2022

Shanghai

- Augmented graph data with random masking and attention to local structures, outperforming baseline models by an average of 2% across five datasets.

Big Data Developer / Music Recommendation with Spark

Shanghai Jiao Tong University

Jul 2022 – Aug 2022

Shanghai

- Authored a reusable Dockerfile customized for Hadoop and Spark ensuring efficient setup in 20 minutes.
- Enhanced parallel breadth-first search with Spark and data compression via Apache Avro achieving a 10x speed boost over MapReduce.

SKILLS

Programming and Tools	Python, C/C++, Verilog, Docker, MongoDB, Linux, Git, Bash
Web Development	HTML, CSS, JavaScript, Django, React
Visualization	Tableau, Altair
Data Analysis	Hadoop, Spark, SQL, R