

# YIPENG ZHANG | 张艺澎

+1 608 334 9268 / yzhang2628@wisc.edu

## Education

**Bachelor of Science in Mathematics, Data Science, and Minor in Computer Science** Sep 2022 – Present

*University of Wisconsin Madison*

- GPA 3.88/4
- Dean's List Award for every Semester
- 4.0 in below courses: Mathematical method in Data Science, Artificial Intelligence, Probabilistic Graphical Model AI, Statistical modeling, Graphs and Networks in Data Science, Machine Learning and Statistical Pattern Classification, Data management, Combinatorial Math

## Work Experience

**Beijing Qutke Technology Co., ltd - AI Developer Intern** May 2025 – August 2025

- building and deploying AI Agents using LangGraph, including node logic development, state management, and concurrency handling
- Developed backend services with FastAPI, integrating LangGraph to implement asynchronous agent workflows
- Optimized multi-turn dialogue logic and prompt structures by adopting a modular agent architecture and multi-role collaboration mechanisms, enhancing response accuracy and system stability

**Jinan DaZhen(Touchdown) Technology Co., Ltd - Data Analyst Intern** June 2024 – August 2024

- Effectively managed and maintained databases using coding tools, ensuring data integrity and accessibility to support seamless company operations and strategic planning. Additionally, performed data analysis to uncover trends and patterns, contributing to enhanced operational efficiency and informed decision-making
- Designed and developed reports and interactive dashboards tailored to business needs, delivering actionable insights and facilitating data-driven decision-making processes at all levels of the organization

**Archifiction Technology Co., Ltd - Algorithm Engineer Intern** May 2024 – June 2024

- Utilized Python to develop and optimize CNN and RNN algorithms, improving model performance and accuracy. One of model increased it's accuracy 5 percent by Solved Camera distortion problem and resulted in positive impacts on the model's overall efficiency
- Conducted data analysis and modeling to support the implementation and improvement of predictive analytics solutions

## Academic Experience

**Independent Research & Research Assistant** Sep 2024 – Present

*Mathematics Department, Beijing University of Posts and Telecommunications*

- Conducted theoretical research on complex networks and community detection under the remote guidance of Prof. Xinjian Zhuo in Beijing University of Posts and Telecommunications
- Independently developed a community detection algorithm while serving as an assistant in a research group focusing on complex network analysis

**Peer Mentor, Data Science Programming II** Jan 2024 – Dec 2024

*Computer Science Department, University of Wisconsin Madison*

- Taught and assisted students during office hours by clarifying course concepts and guiding project completion

## Project Experience

**AlphaQuant** May 2025 - August 2025

- Architected a Python-based workflow to ingest and ETL historical stock data from Alpha Vantage into PostgreSQL, ensuring clean, versioned time-series storage.

- Automated calculation of technical indicators (SMA, EMA, RSI) and trained LSTM models with Optuna-driven hyperparameter tuning for robust next-day return predictions.
- At 1% and 2% movement thresholds, the model achieved intraday direction prediction accuracies of over 60% and 70%, respectively, with an annualized Sharpe ratio above 1.8, significantly outperforming industry benchmarks.

#### **DALL-E Zero: AI-Generated Image Detection System**

**Feb 2024**

- Inspired by GPT Zero, developed DALL-E Zero, a system capable of detecting whether an image is AI-generated and returning results to users trained and tested the model with the CIFAKE dataset, and leveraged OpenCV and Pandas for image preprocessing to ensure compatibility with deep learning models. Designed and trained a CNN model using TensorFlow, converting JPEG images into  $32 \times 32$  pixel matrices to match model input requirements, and integrated a frontend UI for user interaction
- Overcame challenges related to complex file name handling in preprocessing, improved usability, and optimized data format conversion between the frontend and backend to ensure stable system operation. Model Achieved a 92% accuracy rate on the final model and successfully established a connection between the frontend and backend, enabling seamless user uploads and AI-generated image detection

## **Technical Skills**

- **Programming language** Python(Data Analyze, Machine Learning, Deep Learning, Data Visualization), R(Statistical Modeling)
- **Database:** MySQL, MongoDB(Data Management, Query Optimization)
- **Tool & Framework** Pytorch, Tableau, SQL, FastAPI, Langgraph