

Yuzhe Yang | 阳雨哲

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A Year 3 CSE student with a keen interest in deep learning. Currently exploring GCN, LLM, and NLP.

Education

School of Data Science | The Chinese University of Hong Kong, Shenzhen

Sep 2021 - May 2025

B.Eng. in Computer Science and Engineering

Core Curriculums: Data Structure | Operating System | Computer Architecture | Machine Learning | Optimization | NLP

Skills

Programming Languages: Python | PyTorch | C++ | RISC-V | HTML | JavaScript | React

Technologies: Git | VS Code | MATLAB | \LaTeX | Linux | CLI

Languages: English (Fluent) | Mandarin (Native)

Work Experiences

China Telecom Beijing Research Institute

Jan 2024 - Mar 2024

Remote Internship

Beijing, China

- Intern at the AI Large Model Research Team

- Analyze a technology's trends, applications, and industry impact

Shenzhen Branch of China Telecom

Jan 2024 - Now

Part-time Internship

Shenzhen, China

- Time Series Analysis, Data Visualization

- GIS Data Analysis, Data Mining

Publication

FAST-CA: Fusion-based Adaptive Spatio-Temporal Learning with Coupled Attention for Airport Network Delay Propagation Prediction, Information Fusion, 2024, 107:102326 [online]

Aug 2023 - Nov 2023

Undergraduate Research Assistant, advised by Prof. Jianfeng Mao

SDS, CUHK(SZ)

- Refined the deep learning model for the prediction of airport network delays

- Implemented baseline models and measure the performance of the proposed model

- Spatio-temporal data analysis and illustration

- Deep Learning, Graph Neural Network, PyTorch, PyTorch Geometric

Research Experiences

Research in Continuous Spatio-Temporal Graph

Jan 2024 - Now

Undergraduate Research Assistant

SDS, CUHK(SZ)

- Implemented a conditional spatio-temporal graph model for traffic flow prediction

- Proposed a novel method to construct continuous graphs using Ordinary Differential Equations

- Time convolutional graph neural network

Deep Learning Approach for Early Predicting and Controlling Network Flow in SDN

Jan 2024 - Now

Research Internship

ICNLAB, PKU(SZ)

- Developed a novel network flow prediction method using a modified Informer architecture for Software-Defined Networks

- Designed and implemented a proactive congestion management strategy based on the predictions

- Conducted practical experiments in a simulated environment to validate the effectiveness of the proposed method

- Deep Learning, Time Series Analysis, PyTorch

Projects Experiences

Evaluation Model of Light Pollution by Multi-conditional AHP | MCM

Feb 2023

- GIS-data analysis, Mathematical modeling

- Analyzed the level of light pollution in the area by population data, regional income data, etc.

- Explored the multifaceted impacts of light pollution on the region

- GeoPandas, Folium

1st and Future - Player Contact Detection Competition | Kaggle

Dec 2022 - Mar 2023

- Employed advanced data preprocessing techniques to clean and integrate complex datasets, including video analysis and player tracking information, ensuring high-quality inputs for model training.

- Innovated in creating predictive features by analyzing player movements and interactions through statistical modeling and signal processing, enhancing model accuracy in detecting contacts.

- Utilized ensemble learning and fine-tuned deep learning models to achieve high precision in contact detection

- Bronze Medal

Game Theory Analysis of SEO Strategies: From Methods to Models

Oct 2023 - Dec 2023

- Researched and implemented various Search Engine Optimization (SEO) strategies to improve website ranking

- Developed and validated a new ranking algorithm incorporating keyword frequency, traffic, and linkage

- Applied game theory principles to SEO, including simulation of an α -random walk and analysis of Nash Equilibrium

- Proposed a multi-stage strategy to handle the dynamic nature of SEO

AI-Based Flight Delay Insurance Recommendation System

Jun 2024 - Now

- Predict flight delays and recommend personalized travel insurance, in order to improve customer satisfaction

- Utilized deep learning, NLP, and sentiment analysis for accurate delay predictions and customer sentiment assessment

Open Problems - Multimodal Single-Cell Integration | Kaggle

Feb 2022 - Apr 2022

- Machine Learning, Data Analysis

- Predict how DNA, RNA & protein measurements co-vary in single cells

- Silver Medal

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| Happywhale - Whale and Dolphin Identification Kaggle | <i>Aug 2022 - Nov 2022</i> |
| <ul style="list-style-type: none">- Machine Learning, Data Analysis- Identify whales and dolphins by unique characteristics- Silver Medal | |
| Machine Learning Project (<i>in class</i>) | <i>Feb 2023 – May 2023</i> |
| <ul style="list-style-type: none">- Data Analysis, Data Visualization- Python: numpy, pandas, matplotlib, sklearn, scipy, etc- Implemented model: Linear Regression, SVM, Decision Tree, K-Means, PCA, etc. | |
| CPU Circuit design (<i>in class</i>) | <i>Jul 2023</i> |
| <ul style="list-style-type: none">- Verilog, RISC-V- Implemented simple RISC-V instructions through circuit design and realized CPU pipelining | |

Activities

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| MUSE College Student Assistant: Outstanding College Contribution Award | <i>Sep 2021 - Sep 2023</i> |
| MUSE College Basketball Team | <i>Sep 2021 - Sep 2023</i> |
| P.I.C. Photography Club | <i>Sep 2021 - Jun 2022</i> |