

Zhuowen Liang

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EDUCATION

South China University of Technology

Sep. 2021 - Jun. 2025

Bachelor in Computer Science and Technology

GPA: 3.91/4.0

Computer Science and Technology (Innovation Class)

Rank: 4/25

- Elite Class, English-medium instruction

- Implement a second round selection mechanism, admitting only 30 students in the entire school

Relevant Coursework: Math Mathematics Analysis, General Physics, Principles of Compiler, The Design and Analysis of Computer Algorithm, Advanced Language Programming in C++, Java Programming, Linear Algebra and Analytic Geometry, Discrete Mathematics, Deep Learning, Data Structure

PUBLICATIONS

UNDER REVIEW:

VisLTR: Visualization-in-the-Loop Table Reasoning. Jianing Hao, Zhuowen Liang, Chunting LI, Yuyu Luo, Wei Zeng, Submitted to *IEEE Visualization Conference (VIS)*. 2024

RESEARCH EXPERIENCES

Visualization-based Time-series Fuzzy Query

The Hong Kong University of Science and Technology (Guangzhou)

Research Assistant at the Information Hub for Data Science and Analytics

Jan. 2024 - Present

- Mentor: Professor Wei Zeng, Assistant Professor in Thrust of Data Science and Analytics.
- Assisted in coding and writing papers, focusing on data analysis, expansion, the use of vector database(Chroma) and **multimodal alignment**. Specifically responsible for the alignment of sketches-images-text, ultimately implementing alignment through fine-tuning **Clip**.

Resident Useful Life prediction(SRP under the guidance of Prof.Li)

South China University of Technology

Responsible for training deep learning models

Apr. 2023 - Apr. 2024

- Used wavelet transform to process the PHM bearing dataset. Then constructed a **CNN&LSTM** model, where the CNN encoder's outputs were fed in real-time to the LSTM units, yielding predictions for the remaining useful life.
- Applied for **Software Copyright**.

SUMMER SCHOOL PROGRAMME

National University of Singapore

Singapore

Artificial Intelligence and Machine Learning Programme

Jul. 2023

- Focused on topics related to machine learning and digital image processing.
- Led our group to complete the final project on traffic signal recognition, which involved preprocessing, feature extraction, classifier implementation, and cross-validation to optimize classification accuracy.
- Achieved a **distinction** grade and received a letter of **recommendation**.

PROJECTS EXPERIENCE

Deep Learning Project Design: mathematical formula recognition

Nov. 2023 - Dec. 2023

- Used **ResNet-34** as the encoder and **Transformer** as the decoder with cross-entropy loss function to train the model and develop a recognition system. Optimized by adjusting vocabularies.

Software Engineering Project Design: 5G Phone Assessment Website

Nov. 2023

- Responsible for Data Extraction, Transformation and Loading (ETL) based on Web Crawler Technology, and leveraged Baidu api to deal with Natural language processing and sentiment analysis of comments.

Database Project Design: Hospital Database Management System

Nov. 2023

- Responsible for the design of the Admin system by **MySQL** and **Django**, including **front-end page** design and urls jump, as well as the implementation of specific functions at the back end.

SCHOLARSHIPS

Tencent First Price Scholarship	Dec. 2023
- Only awarded to junior undergraduates in my department	
- In my grade level, the proportion of students who win this award is 2%	
The First Price Scholarship	Nov. 2023
The Second Price Scholarship	Nov. 2022

AWARDS

2022&2023 Merit Student(twice)	Nov. 2022
2022&2023 Excellent League Member(twice)	Nov. 2022
2022 Chinese Mathematics Competitions(Guangdong) - First Prize	Nov. 2022
2023 Asia and Pacific Mathematical Contest in Modeling(APMCM) - Third Prize	Dec. 2022
2023 MathorCup College Mathematical Modeling Challenge - Third Prize	Jun. 2023

SKILLS & INTERESTS

Languages:	Mandarin (Native), Cantonese (Native), English (Fluent)
Programming:	Python[good] , C++, JAVA, SQL, Ruby
Technical skills:	Pytorch, Machine learning, Web Crawler , MATLAB, SPSS, Proteus, Excel
Interests:	Basketball, Table Tennis, Swimming, R&B Music and Reading