

Zitao Liao

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Education

B.Sc. in Intelligence Science and Technology Sep 2023 – Present
Southern University of Science and Technology Shenzhen, China

- **GPA: 3.82/4.0** (3.96 in Last Semester), Weighted Avg: **91.65/100**
- **Core Courses** (Honored classes marked with H, score in parentheses):
 - Artificial Intelligence (H, 93) Deep Learning (93)
 - Computer Network (97) Distributed and Cloud Computing (95)
 - Digital Logic (H, 97) Computer Organization (97) Operating System (H, 94)
- **Honors Program:** Turing Class (a selective program for outstanding students in computer science)

Visiting Student May 2025 – Jul 2025
National University of Singapore, School of Computing Singapore

- Participated in the SoC Summer Workshop 2025
- Completed the "Deep Learning" course with a final grade of A+

Research Experience

Competition on LLM designed EA, GECCO Mar 2026

- Collaborated in a team to design adaptive multi-operator evolutionary algorithms using the LLM4AD platform and Evolution of Heuristics (EoH)
- Designed a module based on the Multi-Armed Bandit (MAB) algorithm for adaptive operator selection during optimization
- Achieved optimal results on 17 out of 24 GNBG benchmark problems

Research on Combinatorial Optimization Methods Based on Deep Learning and Development of the EasyCO Platform Sep 2025 – present

- Exploring graph neural network-based data representations and feature learning mechanisms integrated with reinforcement learning frameworks (e.g., REINFORCE)
- Contributing to the development of the open-source EasyCO platform, laying the foundation for building general-purpose efficient solvers for industrial applications

Autonomous Driving Video Annotation System Based on VideoLLaMA2 Apr 2025 – Jun 2025

- Designed English prompts focused on key driving elements for the model to generate textual descriptions centered on ego-vehicle behavior and interactions with preceding vehicles
- Fine-tuned the model to optimize accuracy

Projects

Intelligent Sanitation Robot implementation Based on Deep Learning Jul 2025

This project was the main practical assignment for the NUS SOC Summer Workshop Program. [Project Repository](#)

- Transfer learning on YOLOv7 for different tasks and parallel design for multi-object detection, including trash (paper and bottles), cigarettes, violent behavior, and human falls
- Constructing a crane-style mechanical structure on robot car with servo-controlled grabbing arms and a launching mechanism, integrating with Arduino and Raspberry Pi

Real-time Facial Emotion Analysis System on Jetson Nano Dec 2025

This project was the main practical assignment for the course "Deep Learning". [Project Repository](#)

- Fine-tuning of a lightweight face detection model (CNN with RFB modules) on a custom emotion dataset
- Deploying models on the Jetson Nano edge computing platform

Modeling and Optimization of Voting Mechanisms in "Dancing with the Stars"

Feb 2026

This project was the achievement of 2026 MCM.

- Addressing voting controversies in "Dancing with the Stars" by implementing a Bayesian inverse estimation framework, counterfactual simulations and XGBoost model with the CPISeq framework
- Proposing a "Four-Strike Rank Fusion" voting rule for fairness in high-conflict scenarios

Pipelined RISC-V CPU design and implementation based on Verilog

May 2025

This project was the main practical assignment for the course "Computer Organization". [Project Repository](#)

- Implementation of a five-stage pipelined CPU based on the RISC-V 32I instruction set on the EGO1 FPGA board
- Featuring UART communication, branch prediction and a Python GUI frontend for real-time visualization of registers and pipeline states

Performance Comparison and Evaluation of openGauss vs. PostgreSQL

Dec 2024

This project was one of the main practical assignment for the course "Principles of Database Systems(H)".

[Project Repository](#)

- Comparing openGauss and PostgreSQL using pgbench across key metrics including query performance, concurrency handling, connection efficiency, data import speed, resource utilization, and security.

Java Swing-Based Match-3 Puzzle Game

Dec 2023

This project was the main practical assignment for the course "Introduction to Computer Programming A(H)".

[Project Repository](#)

- Design and implementation of a Match-3 puzzle game using Java Swing, featuring multi-level progression, score and move limits, and both manual and auto-play modes

Awards & Honors

- **Second Class of the Merit Student Scholarship (Top 8%)** 2024
- **"Outstanding Student Cadre" Award** 2024
- **Third Class of the Merit Student Scholarship** 2025
- **"Outstanding Student" Award** 2025

Skills & Certifications

- **Technical:** Python, Java, MATLAB, C++, PyTorch, TensorFlow, SQL, Verilog
- **Academic:** LaTeX, Adobe Illustrator, Adobe Photoshop, Office
- **Languages:**
 - **English:** CET-4 & 6, TOEFL 98/120 (R25, L24, S22, W27), TOEFL 5.0/6 (R5.0, L5.5, W5.0, S4.5)
 - **German:** DSD-I 88/100(B1), Gaokao 142/150

Extracurricular Activities

- **Monitor, SUSTech Zhicheng College Class 2311**
 - Organized and presided over 7 class meetings, resolved over 60 peer issues related to school affairs and campus life
 - Leading the class to win SUSTech "Excellent Academic Atmosphere Class" and "Sunshine Psychological Class" titles
- **Member, Publicity Department, 9th Zhicheng College Student Union**
 - Created posters for events like the Zhicheng Ball and SUSTech Voice, and participated in on-site photography for multiple events
 - Served as Deputy Head of the Publicity Group for the 2024 New Year's Gala & 9th SUSTech Voice Finals, acting as the publicity supervisor for the gala