

# Haoyu Zhang

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## Education

- M.S.

Southwest University, Operations Research – Chongqing

Sept 2025 – present

- (Ranked 3/65): Optimization, Variational Analysis, etc.
- B.S.

Donghua University, Mathematics and Applied Mathematics – Shanghai

Sept 2021 – June 2025

- (GPA: 4.0/5.0): Mathematical Modeling, Discrete Mathematics, Data Structures and Algorithms, etc.

## Knowledge and Skills

**Expertise:** Distributed Optimization, Stochastic Optimization, Primal-Dual Algorithms

**Languages:** Mandarin (Native), English (CET-6), Japanese (JLPT-N2)

**Programming:** Python, MATLAB

## Work Experience

- Math AI Training (AIGC) Intern, Appen Ltd. – Chongqing, China

Jan 2025 – Apr 2025

- Contributed to the development of mathematical vertical capabilities for Large Language Models (LLMs) to enhance their reasoning performance in specialized domains.
  - Engineered complex reasoning solution chains and step-by-step logical paths using LaTeX and Markdown, facilitating the batch production of high-quality training data.

## Research Experience

- Multi-Species Ecological Competition & Regression Analysis System

Dec 2022 – May 2023

Modeler of research group

- Developed a regression analysis system to simulate complex interspecies competitive relationships based on the Lotka-Volterra model.
- Fluid Dynamics & Thermal Coupling Modeling for Greenhouse Environments

Nov 2023 – Apr 2024

Leader of research group

- Constructed a coupling model for greenhouse gas concentrations and temperature distributions utilizing Navier-Stokes and heat conduction equations.

## Selected Honors & Awards

- Academic Scholarship, Southwest University

2025
- Tianji Annual Scholarship, Donghua University (Top-tier annual honor)

2024
- Honorable Mention, Mathematical Contest in Modeling (MCM)

2023
- Shanghai Municipal Prize, Contemporary Undergraduate Mathematical Contest in Modeling (CUMCM)

2023
- Third Prize, Asia-Pacific Mathematical Contest in Modeling (APMCM)

2023
- University-level Scholarship (Twice), Donghua University

2022 & 2023