Jiatong Zhao

Email: zhaojiatong@sjtu.edu.cn | Phone: +86 13020590959
800 Dongchuan Road, Minhang District, Shanghai, China

Education

Shanghai Jiao Tong University , Zhiyuan College

Physics (**Zhiyuan Honors Program**) Sep 2023 – Jun 2027

- **GPA**: 3.91/4.3, **Average Core:** 90.4/100, **Ranked 1st out of 30 in major comprehensive evaluation**
- **Major Courses:** Linear Algebra **(Honor)**, Mathematical Analysis **(Honor)**, Probability and Mathematical Statistics **(Honor),** Machine Learning **(Honor),** Programming and Computational Physics Basics, Introduction to Computer Science, Analytical Mechanics **(Honor)**
- **Honors: Meritorious Winner** of 2025 Interdisciplinary Contest In Modeling, Outstanding Communist Youth League Member, Category A Undergraduate Scholarship, Zhiyuan Honor Scholarship, Class of 2009 School of Electronic Information Alumni Scholarship

Research Experience

Hierarchical reasoning diffusion LLM

July 2025 – Present

- Advisor: Jie fu, Shanghai AILab
- Proposed a Turing-complete diffusion architecture aimed at Chain-of-Thought generation

Formal Language-Enhanced Mathematical Reasoning in Large Language Models

Mar 2025 – May 2025

- Advisor: Prof. Junchi Yan, Shanghai Jiao Tong University
- Submitted to **NeurIPS,** currently under review with a score of **4,4,5,5**
- Benchmarked the **reasoning performance of large language models in mathematical contexts,** focusing on geometry and the evaluation of false positives
- Developed a geometry data generation and formalization engine
- Analyzed LLM capabilities in “graph-to-logic” transformation and mathematical reasoning

White-box Interpretation of Neural Networks

Mar 2025 – May 2025

- **Funded by Zhiyuan Future Scholar Program**, Shanghai Jiao Tong University
- Advisor: Prof. Junchi Yan
- Initiated and led the project as **team leader**
- Pioneered the idea of using LLMs for white-boxing combinatorial optimization solvers
- **Highly praised** by three external blind-review experts
- Built an interpretable LLM decoding framework via prompt engineering and task modeling

Optimization Analysis of Particle Injectors Based on Deep Learning

Aug 2024 – Sep 2024

- Summer Research Project, **Zhangjiang National Laboratory**
- Advisor: Prof. Houjun Qian, Shanghai Institute of Applied Physics, Chinese Academy of Sciences
- Participated in **AI4Sci / AI4Physics** initiatives
- Combined MLP neural networks with genetic algorithms
- Reduced simulation time from hours to minutes

Skills & Interests

- **Quantitative Skills**: Strong foundation in statistical analysis, probability theory, optimization, and mathematical modeling
- Proficient in **Python**, **C++**, with experience in **data analysis** and building **statistical models**
- Familiar with deep learning frameworks such as **PyTorch**
- Interested in applying **machine learning** and **quantitative methods** to financial modeling and decision-making
- Proficient in reading English academic papers; CET-4: 603, CET-6: 580
- Hobbies: Piano, badminton

赵佳彤

邮箱：zhaojiatong@sjtu.edu.cn |电话： +86 13020590959
上海市闵行区东川路800号上海交通大学

教育背景

上海交通大学 致远学院 物理学（致远荣誉计划） 2023.09 - 2027.06

- **GPA:3.91/4.3，学积分90.4/100，综测排名1/30**
- 主修课程：线性代数（荣誉）、数学分析（荣誉）、概率与数理统计（荣誉）、机器学习（荣誉）、程序设计与计算物理基础、计算机科学导论（荣誉）、分析力学（荣誉）
- 获美国大学生数学建模比赛 Meritorious Winner，获评优秀团员、本科生A类优秀奖学金、致远荣誉奖学金、2009届电院校友奖学金等荣誉

科研经历

层次化推理扩散大语言模型 2025.07至今

- 指导老师：付杰，上海人工智能实验室
- 改进扩散模型架构，旨在改善思维链生成

形式化语言增强的数学推理大模型 2025.03-2025.05

- 由上海交通大学**严骏驰**老师指导，**NeurIPS在投**
- **benchmark,** 研究大语言模型在数学场景中的推理表现，聚焦几何领域，评价“假阳性”问题
- 构建几何数据生成与形式化引擎
- 分析 LLM 在“图-逻辑”转化的能力及数学推理能力

神经网络白盒化 2025.03-2025.05

- 致远未来学者计划立项项目，由致远学院提供经费支持
- 上海交通大学**严骏驰**老师指导
- 作为队长立项，创新地提出LLM用于CO求解器白盒化的想法，得到三位校外盲审专家的高度评价
- 基于提示词工程与任务建模，构建 LLM 可解释解码框架

基于深度学习的粒子注入器优化分析 2024.08-2024.09

- **张江国家实验室**暑研项目，由中国科学院上海应用物理研究所**钱厚俊**教授指导
- **AI4sci， AI4Physics**，结合神经网络建模（MLP）与遗传算法
- 将以“时间”为量级的时间成本降低到以**“分钟”**为量级

专业技能&爱好

- 量化技能：具备扎实的**统计分析、概率论与数学建模基础**
- 编程与数据分析：熟练使用 **Python、C++**，具有**数据分析与统计建模**经验
- 深度学习框架：熟悉 **PyTorch** 等主流深度学习工具
- 语言能力：熟练阅读英文学术论文，CET-4：603，CET-6：580
- 爱好：钢琴、羽毛球