YICHAO ZHONG

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EDUCATION

Shanghai Jiao Tong University, Shanghai, China — Enrolled: Sept. 2021 — Expected: June 2025
Bachelor of Computer Science

- Member of **ACM Honor Class**, which is an elite CS program for top 5% talented students
- **Avg. GPA**(All-time): 3.80/4.3
- **Avg. Score**(1st year 2nd semester): 89.04/100, **Rank** 3/33
- **Avg. Score**(3rd year): 94.09/100, **Rank** 3/33
- Scores of some courses:
  - **Computer Systems(Architecture)** 94/100
  - **Reinforcement Learning** 98/100
  - **Computer Vision** 100/100
  - **Large Language Models** 97/100
  - **Introduction to Physics** 96/100

EXPERIENCE

APEX Knowledge and Data Management Lab, **Shanghai Jiao Tong University** — Shanghai, China
Undergraduate Researcher, advised by Prof. Weinan Zhang and Prof. Yong Yu — Aug. 2023 - Present
Research Topic: Reinforcement Learning Algorithms; Robotics

LeCAR Lab, **Carnegie Mellon University** — Pittsburgh, PA, United States
Undergraduate Researcher, advised by Prof. Guanya Shi — June 2024 - Dec. 2024
Research Topic: Robot Learning; safe control; adaptive control

Embodied AI Center, **Shanghai AI Lab** — Shanghai, China
Undergraduate Researcher, advised by Prof. Weinan Zhang — March 2025 - June 2025
Research Topic: Cross-embodiment learning, humanoid locomotion

PUBLICATIONS

Bridging Adaptivity and Safety: Learning Agile Collision-Free Locomotion Across Varied Physics
Y. Zhong*, C. Zhang, T. He, G. Shi*

- Accepted to **L4DC 2025**
- Released on **Arxiv**: `http://arxiv.org/abs/2501.04276`
- In this paper, we propose BAS, which achieves collision-free locomotion in real-world dynamic environments and strikes a balance between adaptivity, agility, and safety by learning a nominal physical parameter estimator.

Diffusion Models for Reinforcement Learning: A Survey
Z. Zhu, H. Zhao, H. He, ***Y. Zhong****, S. Zhang, Y. Yu, W. Zhang*

- Released on **Arxiv**: `https://arxiv.org/abs/2311.01223`
- We surveyed and summarized the recent advances and challenges of using diffusion models for RL or RL-related tasks. We are also actively maintaining a github repository for papers in applying diffusion model to RL.

PROJECTS

Compiler for Mx* Language
SJTU ACM Class Compiler Design and Implementation 2022 Assignment (MS208 Course Project)

- A Compiler from Mx* language (which is a C++ or Java like language) to RV32I Assembly.
- I implemented lots of optimizations (Mem2Reg, Inline, etc.) to reduce the runtime of the generated code. Its performance ranks the 3rd in ACM Class 2021.

RISC-V CPU Implemented in Verilog RTL
SJTU ACM Class Computer Architecture 2022 Assignment (MS108 Course Project)

- A Tomasulo RISC-V cpu with instruction cache and branch predictor with 2-bit saturating counter.

Kinematic Motion Diffusion: Towards Semantic-adaptive Motion Synthesis via Kinematic Guidance
Course Project of SJTU Computer Vision 2023

- Accepted by International Conference on Multimedia Systems and Signal Processing (ICMSSP), 2024

HONORS & AWARDS

Mathematical Modeling Competitions

- COMAP MCM/ICM 2022, Honorable Mention (Top 30% in the world)
- National Mathematical Modelling Competition 2022, Second Prize in Shanghai

Scholarships

- 2021, 2022, 2023, 2024 Zhiyuan Honorary Scholarship (Top 2% in Shanghai Jiao Tong University)
- 2022 Longfor Scholarship (Computer Science Only) (Top ¡1% in Shanghai Jiao Tong University students major in Computer Science)

OTHER EXPERIENCES

Compiler Design and Implementation
Teaching Assistant *Sept. 2023 - Jan. 2024*
Programming
Teaching Assistant *Sept. 2022 - Jan. 2023*

TECHNICAL SKILLS

- **Languages:** Chinese Mandarin, English (TOEFL: 105(R27,L29,S23,W26)),
- **Programming Languages:** Proficient with C, C++, C#, Python, Java, MATLAB and Verilog.
- I have firm experience of working with those tools: Git, LaTeX, PyTorch, TensorFlow, ROS, Unity, etc.