

ZHENG LI

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RESEARCH INTERESTS

Computer Networks, Mobile Systems, Machine Learning and Human Computer Interaction.

EDUCATION

University of Michigan, Ann Arbor, MI

Ph.D. Computer Science and Engineering

Expected May 2029

B.S.E. Computer Science (Dual Degree)

August 2022 - May 2024

Graduated with Summa Cum Laude

Shanghai Jiao Tong University, Shanghai, China

B.S.E. Electrical and Computer Engineering (Dual Degree) Cumulative GPA: 3.83/4.00

Expected August 2024

PUBLICATIONS

Xuechen Zhang* and **Zheng Li*** (*: co-primary), Samet Oymak, Jiasi Chen. “Text-to-3D Generative AI on Mobile Devices: Measurements and Optimizations” *ACM SIGCOMM Workshop on Emerging Multimedia Systems*, 2023.

Zheng Li, Caiwei Chen, and Pradeep Kumar Ray. “Robotics for Autism- Robotic Technologies for ASD Treatment.” *Asian Hospital & Healthcare Management*, ISSUE 57, 2022.

PRESENTATIONS

ACM SIGCOMM Workshop on Emerging Multimedia Systems, New York, NY

September 2023

Text-to-3D Generative AI on Mobile Devices: Measurements and Optimizations (oral)

RESEARCH EXPERIENCE

Research Assistant in SOTA Lab

May 2023 - Present

University of Michigan, Supervisor: Jiasi Chen, Samet Oymak

Ann Arbor, MI

- Published a paper in ACM SIGCOMM Workshop on Emerging Multimedia Systems (EMS).
- Research work won one of the two Wang Chu Chien-Wen Research Award in 2023.
- Evaluated model performance (including latency, memory usage, Quality of Experience etc.) of different Text-to-3D generative AIs on server GPUs and mobile GPUs.
- Analyzed the inefficiency of different 3D generative models and their corresponding optimization strategies in the context of mobile systems.
- Designed ranking algorithms for 3D gaussians to optimize 3D streaming efficiency.
- Implemented viewport dependent 3D streaming based on 3D gaussian ranking algorithms.
- Measured and compared 3D streaming visual quality of different 3D gaussian ranking algorithm designs using PSNR and SSIM.

Research Assistant in RobustNet Lab

January 2023 - December 2023

University of Michigan, Supervisor: Z. Morley Mao, ACM & IEEE Fellow

Ann Arbor, MI

- Developed a customized network performance measurement system for Starlink that can measure basic network performance parameters including round trip time, throughput etc.
- Implemented handover recognition algorithms for Low Earth Orbit satellites (LEO) handover problems based on network measurements (e.g. round trip time, loss and throughput).
- Predicted satellite handover events based on Satellite trajectory prediction using Kalman filter.
- Developed Multipath TCP simulation shell for LEO network simulation based on open source software Mahimahi.
- Reviewed current literatures about network system design of LEO.

Student Assistant of JI Centre For Entrepreneurship
Shanghai Jiao Tong University, Supervisor: Pradeep Kumar Ray

July 2021 - August 2022
Shanghai, China

- Proposed a low-cost autism diagnosis system using eye-tracking technologies based on computer vision.
- Reviewed current robotic technologies used in autism diagnosis and treatment and published a paper on AHM.

PROFESSIONAL SERVICE

Instructional Aide of EECS 498/598: Mobile Interactive Multimedia Systems January 2024 - May 2024
University of Michigan, Supervisor: Jiasi Chen *Ann Arbor, MI*

- Hosted weekly office hours, led weekly in-class coding activities, designed and graded assignments.

Teaching Assistant of Honor Physics (VP160) May 2022 - August 2022
Shanghai Jiao Tong University, Supervisor: Mateusz Krzyzosiak *Shanghai, China*

- Hosted weekly recitation classes, office hours, graded weekly assignments and designed problems for exams.
- Awarded Excellent Teaching Assistant Award (10 recipients each year).

Writing Consultant of JI Writing Center September 2021 - September 2023
Shanghai Jiao Tong University *Shanghai, China*
Supervisor: Amalia Jiva

- Held consulting sessions to guide the students in JI to improve their essays and writing skills.
- Led a group of writing consultants to provide embedded consulting services for the course VY200 (Academic Writing II).

Software Engineer Intern December 2021 - March 2022
TURINGO *Shanghai, China*

- Implemented testing programs for the laser routing programs.
- Designed storage pipelines for light storage chips based on Reed-Solomon-codes and quantum encryption.

HONOR & AWARDS

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|-------------------------------------------------------------------------------|-----------------------------------|
| James B. Angell Scholar, <i>UMich</i> | 2024 |
| ACM SIGCOMM Travel Grant, <i>NSF</i> | 2023 |
| McLane Family Scholarship, <i>UMich</i> | 2023 |
| Roger King Scholarship, <i>UMich</i> | 2023 |
| The Jackson and Muriel Lum Scholarship (5 recipients each year), <i>UMich</i> | 2022, 2023 |
| Wang Chu Chien-Wen Research Award (2 recipients in 2023), <i>UMich</i> | 2023 |
| University Honors, <i>UMich</i> | Fall 2022, Winter 2023, Fall 2023 |
| College of Engineering Dean's Honor List, <i>UMich</i> | Fall 2022, Winter 2023, Fall 2023 |
| JI Excellent Teaching Assistant Award (10 recipients each year), <i>SJTU</i> | 2023 |
| SJTU Undergraduate Excellent Scholarship Class A (top 2 %), <i>SJTU</i> | 2022 |
| The 2021 University Physics Competition Bronze Medal Winner | 2022 |
| The John Wu & Jane Sun Sunshine Scholarship, <i>SJTU</i> | 2021 |
| UM-SJTU Joint Institute Student Development Scholarship, <i>SJTU</i> | 2021 |

SKILLS

Computer: C++, C, Python, CUDA, Pytorch, SQL, HTML, Linux, MATLAB, JavaScript, Git, LaTeX
Language: Bilingual in Chinese and English

EXTRA-CURRICULAR ACTIVITIES

Member of *Tau Beta Pi* Engineering Honor Society