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Ruiming Lu

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Education

Ph.D Candidate	Shanghai Jiao Tong University	Sep 2020 – present
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- Ph.D Candidate in Computer Science, Department of Computer Science, SEIEE.
- Research Fields: Interested in exploring the reliability of newly-emerged storage technologies (e.g., NVMe SSD and SMR HDD) and designing practical fault-tolerant storage systems.

B.Eng	Shanghai Jiao Tong University	Sep 2016 – Aug 2020
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- B.Eng in Electrical and Computer Engineering (E.C.E.), University of Michigan - Shanghai Jiao Tong University Joint Institute.
- Graduate with distinction: **College Graduate Excellence Award of Shanghai** (top 1%).
- Core Coursework: Honors Calculus; Circuits; Signals and Systems; Data Structures; Discrete Mathematics; Linear Algebra; Probabilistic Methods; Bayesian Analysis; Computer Architecture; Operating Systems; Computer Network.
- Thesis: Six-degree-of-freedom Fixed Magnetic Levitation Device.

Publications

2022

- NVMe SSD Failures in the Field: the Fail-Stop and the Fail-Slow. **Ruiming Lu**, Erci Xu, Yiming Zhang, Zhaosheng Zhu, Mengtian Wang, Zongpeng Zhu, Guangtao Xue, Minglu Li, Jiesheng Wu. *In Proceedings of the 2022 USENIX Annual Technical Conference (USENIX ATC), 2020*. [Acceptance rate: 64/394=16.2%]

Experience

Research Intern	Alibaba Cloud	Aug 2021 – present
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- **Project:** Intelligent Analytic Methods for Safe Deployment in Large-Scale Cloud Infrastructures.

Research Intern	Alibaba Cloud	Jan 2021 – Apr 2022
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- **Project:** NVMe SSD Failure Study.
- **Supervisor:** Dr. Erci Xu, Professor Yiming Zhang, and Professor Guangtao Xue.
- **Work:** Comb through telemetry data of NVMe SSD at Alibaba Cloud; Compare NVMe SSD with SATA SSD on recent reliability changes; analyze and benchmark a novel failure type – fail-slow;

Research Assistant	WNAI Lab, UM-SJTU JI	Sep 2018 – Sep 2019
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- **Project:** 3D Finger Tracking based on Acoustic Sensor Array.
- **Supervisor:** Professor Xudong Wang.
- **Work:** Establish an acoustic sensor array platform using Arduino; experiment on position tracking of moving objects using FPGA.

Research Assistant	32th PRP, SJTU	Sep 2017 – Feb 2018
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- **Project:** Machine Learning based Pattern Recognition of the Eye.
- **Supervisor:** Professor Xiaohua Tian.
- **Work:** Literature review on pattern recognition; apply YOLO to detect the motion of human eyes.

Research Assistant	15th IPP, SJTU	Apr 2017 – Jun 2018
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- **Project:** Research and Implementation of a Student Community for Modern University.
- **Supervisor:** Professor Jigang Wu.
- **Work:** Research in web development (front-end, back-end, PHP, etc.) from scratch; develop a back-end for a student community website in JI.

Academic Awards

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- **College Graduate Excellence Award of Shanghai**, Aug 2020.
 - **Annual Excellence Scholarship**, Sep 2017.
 - **Yu Liming Scholarship**, Jan 2018 and Jan 2020.
 - **Dean's List**, Sep 2017.
 - **Best Innovation Award**, the Design Expo of UM-SJTU JI, Aug 2017.

Technical Services

Teaching Assistant

UM-SJTU JI

Jun 2018 – Aug 2018

- Teaching assistant for VG100: Introduction to Engineering.
- Hold weekly recitation classes and office hour; organize lab sessions.

Others

- **Programming Languages:** C++; C; R; Julia; Python; SQL; Matlab; Go.
- **English Qualifications:**
 - TOFEL: 106 (Reading: 28; Listening: 28; Speaking: 24, Writing: 26).
 - CET6: 637 (Reading: 229; Listening: 214; Writing and Translation: 194).