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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

- Perseus: A Fail-Slow Detection Framework for Cloud Storage Systems. **Ruiming Lu**, Erci Xu, Yiming Zhang, Fengyi Zhu, Zhaosheng Zhu, Mengtian Wang, Zongpeng Zhu, Guangtao Xue, Jiwu Shu, Minglu Li, Jiesheng Wu. *To appear in the 21st USENIX Conference on File and Storage Technologies (FAST), 2023*. [Acceptance rate: 28/123=22.8%]
- 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), 2022*. [Acceptance rate: 64/394=16.2%]

RESEARCH EXPERIENCE

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

Research Assistant	SJTU & 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.

SCHOLARSHIPS & AWARDS

- **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.

TEACHING

Teaching Assistant	UM-SJTU JI	Jun 2018 – Aug 2018
<ul style="list-style-type: none"> • Teaching assistant for VG100: Introduction to Engineering. • Hold weekly recitation classes and office hour; organize lab sessions. 		

PROFESSIONAL SKILLS

- **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).