Personal Info:
Email:
yuxuanj9@illinois.edu
Github:
https://github.com/Essoz
Telephone:
+1 (217)-954-3744

Research Interest:
- Reliability Issues in Cloud Systems
- High-Performance Computing

Skills:
- Familiarity with Docker and Kubernetes
- Golang, Python, C++, CUDA, Verilog and Bash
- Knowledge and Programming Experience in Distributed System and Operating System
- Fluent oral and written communication with both Mandarin and English
- Experienced in onboarding, mentoring and collaborating with remote students

Honors:
- *ZJU Disciplinary competition academic specialty students*
- *ZJU-UIUC Dean's List*
- *ZJU-UIUC College third-class scholarship*
- *ZJU Outstanding Student*
- *ZJU Academic Outstanding Pacesetter*
- *ZJU Public Service Pacesetter*

ROLES:
- Microsoft Learn Student Ambassador
- Research Intern at UIUC XLAB
- Teaching Assistant for international students at ZIBS
- Voice A cappella band leader
- Campus Choir Bass Tutor
- Campus Soccer Team Member

Hobby:
A Cappella, Photographing, Fitness, Driving, Reading

Yuxuan Jiang

EDUCATIONS

University of Illinois Urbana-Champaign, USA **2019 - 2023**
Bachelor of Engineering in Computer Engineering
Zhejiang University, CHINA **2019 - 2023**
Bachelor of Engineering in Computer Engineering

RESEARCH EXPERIENCE

Microsoft Research Asia - Cloud Architecture Research Intern
Oct 2022 - Present Mentored by Dr. Shilin He and Dr. Qingwei Lin

Acto: Automatic, Continuous Testing for Kubernetes Operators
Feb 2022 - Present *Mentored by Professor Tianyin Xu*
- Interfaced Kubernetes Apimachinery to collect system snapshot for oracle and later debugging
- Contributed to oracle design and input generation which effectively increased testing accuracy.
- Refactored testing pipeline to decouple components, enable parallel testing, and support multiple cluster runtime (Kind, K3D, Minikube, etc.)
- Tested, developed, deployed Kubernetes Operators; Found 17 bugs (12 confirmed, 11 fixed) in 3 popular Kubernetes operators; Contributed patches to the bugs
- Designed academic poster and presented the project in an internal event

Slooo: A Fail-slow Fault Injection Testing Framework
May 2021 - Feb 2022 *Mentored by Professor Tianyin Xu*
- Wrote scripts to automatically setup test environment on Azure Cloud
- Implemented Role-based fail-slowness injection
- Found performance bugs in etcd and PolarDB

PROFESSIONAL ACTIVITIES

2021 Internet+ Innovation and Entrepreneurship Competition
Provincial Gold Award (Zhejiang) ***Student Leader***
- Developing and formalising the business plan.
- Created concise visual materials for the final presentation.

MusePot (Student Start-Up) ***Backend Developer***
- Developed an online music trading app with MERN Stack

FEATURED PROJECTS

Distributed Transaction System
Implemented in Golang; Used Timestamp Ordering Protocol and 2 Phase Commit to ensure ACI(D); gRPC is used for communication between servers and clients

Unix-like Kernel
Implemented a toy kernel on i386 architecture with GDT/IDT Support, Memory Paging, Terminal Driver (VGA Driver under Text Mode), Real-Time Clock Driver and Virtualization, Basic Set of System Calls, Keyboard Driver and Input Buffer, Read-only Filesystem, User-level Code Loader, Round-robin Style Scheduling

Magic Tower FPGA
- Designed tile-based and framebuffer-based graphics system
- Designed DMA interface to cache resources from SDRAM to onchip memory
- Implemented SRAM controller with dual-port access for a single-port chip