XINYU LIAN

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EDUCATION

Zhejiang University Aug. 2018 – June 2022
B. Eng in Electronic and Computer Engineering GPA: 3.97/4.0
- Zhejiang University Scholarship - Second Prize (2019, 2020; Top 8% students in Zhejiang University)
- Student Leadership Award (2019, 2020, 2021), Student Innovation and Entrepreneurship Award (2020, 2021)

University of Illinois at Urbana–Champaign Aug. 2018 – May 2022
BS in Computer Engineering GPA: 3.80/4.0
- Deans' List (2020, 2021)
- Relevant Coursework: Advanced Operation Systems (**graduate-level**), Computer System Engineering, Communication Networks, Applied Parallel Programming, Data Science and Engineering

PUBLICATIONS

Jiang F., Xiong N., **Lian X.**, González S., Schewe KD. Towards Refinement of Unbounded Parallelism in ASMs Using Concurrency and Reflection. In *Rigorous State-Based Methods. ABZ 2021*. Lecture Notes in Computer Science, vol 12709. Springer, Cham. [**Paper**]

SELECTED PROJECTS & RESEARCH

Unified Regression Tests | *Java* Aug. 2021 – Present
Advisors: Prof. Tianyin Xu and Prof. Darko Marinov, University of Illinois at Urbana–Champaign
- Designed a configuration-aware model to include configurations to dependency that can unify selection of regression test **Ekstazi (ISSTA 2015)** and configuration test **Ctest (OSDI 2020)** to cover both code change and configuration change.
- Contributed to Ekstazi's public repository that enables Ekstazi to support Junit5 (a unit testing framework for Java) by overriding the Junit5 APIs to start and end coverage collection.
- Significantly reduce test maintenance cost, a major cost of software maintenance and ownership.
- Preparing paper to submit to ESEC/FSE 2022.

Towards Refinement of Unbounded Parallelism in ASMs | *C++* May 2020 – May 2021
Advisor: Prof. Klaus-Dieter Schewe, Zhejiang University
- Based on the bulk-synchronous parallel (BSP) model, extended the normal MapReduce algorithm from processing large finite datasets to processing thread grabbing with input data assumed to continue indefinitely.
- Extended the BSP model to Infinite-Agent BSP model capturing an unbounded number of agents; Developed a behavioral theory for the extended model.

Virtual Reality in Robot Assisted Surgical Training | *Matlab, Python* Jun. 2019 – Aug. 2019
Advisor: Prof. Liangjing Yang, Zhejiang University
- Based on the robot assisted surgical training, explored precise methods for virtual reality training, camera calibration and 3D reconstruction
- Won the Second Prize of Excellent Summer Intern Project, awarded by ZJUI

HarmoniOS (Unix based Operating System) | *C, ASM(x86)* | **Repo Link** Apr. 2021
- Built a Linux-like operating system by providing basic features including: memory paging, read-only filesystem, context switch, round-robin scheduler, interrupt handlers and system calls.
- Developed advanced extra features: Supported a range of devices such as keyboard, mouse, sound card, serial port, RTC, PIT and VGA.

WORK EXPERIENCE

Co-founder June 2021
Hangzhou Aotuo Bio-technology Development Co., Ltd. Hangzhou, China
- Our company focus on developing an automatic cell culture system which supports intelligent cell culture, automatic transfer operation and drug testing.
- We attended the 7th "Internet+" Innovation and Entrepreneurship Competition and won the **silver award (Top 200)** among more than **2M** teams.

Backend Software Engineer Intern June - Aug. 2021
Zhejiang Wooduan Technology Co., Ltd Hangzhou, China
- Develop the distributed system modules in server-side concurrent distributed architecture
- Use static analysis to generate method dependency hierarchically and develope visual tools in PyQT to directly show the coverage of affected code.

Leadership Experience

President of the Student Union : International Campus, Zhejiang University
Teacher Assistant: ECE120 (Intro to Computing) With Prof. Volodymyr Kindratenko in Spring 2020
Teacher Assistant: CS101 (Intro to Programming) With Prof. Weeliat Ong in Fall 2020

Society Memberships

ACM Student Membership
IEEE Student Membership

Skills

Programming Languages: C, C++, Java, Python, MATLAB, SQL
System & Cloud: Docker, Linux kernel, LLVM, UNIX network programming, Qemu, System Verilog
Tools: CUDA, PyTorch, CMake, Latex, Markdown, Git
Languages: Mandarin, English (**TOEFL: 110**)

Extracurricular Activities

Fifth place in Zhejiang University Table Tennis Tournament
Champion of Zhejiang University International Campus Freshmen Basketball Cup
Volunteer teaching in Songtao, Guizhou Province, China in 2019 summer