SHUANGYU LEI

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EDUCATION

Cornell University   Ithaca, NY, United States
Ph.D. in Computer Science, Direction: Systems   *Aug. 2024 - Present*
University of Michigan   Ann Arbor, MI, United States
B.S.E. in Computer Science, Summa Cum Laude, GPA: 3.96   *Aug. 2022 - May 2024*
Shanghai Jiao Tong University   Shanghai, China
B.E. in Electrical and Computer Engineering, Minor in Computer Science,   *Aug. 2020 - Aug. 2024*
Outstanding Graduate, GPA: 3.76, top 10%

RESEARCH EXPERIENCE

Privacy Computation Space Evaluating ML Model for Digital Agriculture using KubeStellar
    Advisor: Prof. Hakim Weatherspoon, *Cornell University*   *Aug. 2024 - Present*
Preemptive Scheduling Library with Application-Level Cancel Mechanisms for Enhanced Performance
    Advisor: Prof. Ryan Huang, *University of Michigan*   *May 2023 - Feb. 2024*
- Created Go library for **detecting performance degradation** in etcd, a distributed key-value store
- Established **lightweight runtime profiler** monitoring scheduler waiting time and mutex usage of requests
- Implemented heuristic algorithm to **identify criminal requests** adversely affecting system performance
- Developed robust **cost-benefit analysis policies** to determine the cancellation of trigger requests

Techniques for Testing Correctness of Formal Specifications
    Advisor: Prof. Manos Kapritsos, *University of Michigan*   *Nov. 2022 - May 2023*
- **Investigated bugs** in open-source consensus protocol specifications of distributed systems, blockchain & ML
- Conducted **Fuzzing Tests** on Dafny specifications of distributed protocols to identify unintended behaviors

HONORS AND AWARDS

Summa Cum Laude, University of Michigan	*2024*
Outstanding Graduate, Shanghai Jiao Tong University	*2024*
University Honor, University of Michigan	*2023*
Dean's Honor List, University of Michigan	*2022, 2023*
Undergraduate Excellent Scholarship, Shanghai Jiao Tong University	*2020, 2021*

TEACHING EXPERIENCE

Instructional Assistant, University of Michigan   *Winter 2024*
    Introduction to Operating Systems: Operating system design and implementation
    Hold weekly labs & office hours, grade projects & exams for 380 students
Teaching Assistant, Shanghai Jiao Tong University   *Summer 2022*
    Honors Calculus III: Linear algebra, multivariable calculus, integration on curves and surfaces
    Hold discussion & office hours weekly, grade weekly assignments & exams for about 200 students
Grader, University of Michigan   *Fall 2023*
    Introduction to Cryptography: Fundamental concepts, algorithms, and protocols in cryptography
    Grade biweekly assignments & exams for 60+ students
Volunteer Teaching, Math & English courses   *Sichuan, China, Summer 2020*

SKILLS

Languages: Golang, C/C++, Python, Rust, Verilog, Dafny, Matlab, Mathematica, LaTeX, JavaScript, SQL
Developer Tools: Git, Docker, Kubernetes, KubeStellar, AWS, VSCode, Verdi
Frameworks and Libraries: Pandas, NumPy, Matplotlib, React, Flask
Coursework: Intro to Distributed Systems (A), Intro to Operating Systems (A), Computer Architecture (A-), Web System (A-), Compiler Construction (A), Intro to Cryptography (A), Data Structures and Algorithms (A)