

# Gongqi Huang

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**CONTACT** Address: 194 Nassau St, Princeton, NJ 08542

**INFORMATION** E-mail: gongqih at princeton dot edu

**RESEARCH INTERESTS** Operating Systems, Security

**EDUCATION** **Princeton University**, Princeton, NJ

- Ph.D. Candidate in Computer Science ..... Sep. 2022 - Present

**Johns Hopkins University**, Baltimore, MD

- M.S.E in Computer Science ..... May. 2022
- B.S. in Computer Science ..... May. 2021
  - Minor in Entrepreneurship and Management
  - Graduated with General Honors

**HONORS AND AWARDS** Honorable Mentions in 2021 CRA Outstanding Undergrad Researcher Award ..... Dec. 2020

**RESEARCH EXPERIENCE** **SNS Group at Princeton University**

- Research Assistant ..... Sep. 2022 - Present
  - Currently hacking on a leak-free kernel and hardware architecture to close microarchitectural and high-level timing channels for parallel embedded systems, and a kernel with a novel resource provisioning scheme to close side channels by construction.
  - Designed and developed a novel cloud system for user-defined security in Rust. Evaluated both the performance and the storage overheads of the cloud system under various workloads. Implemented a library for the NodeJS runtime. This project is currently in submission.

**Order Lab at Johns Hopkins University**

- Research Assistant ..... Dec. 2019 - Jun. 2022
  - Worked on the network stack of Linux kernel to achieve userspace-defined performance isolation and evaluated the prototype under real world cases.
  - Ported a revocable lock prototype from Solaris to Linux.
  - Developed a S<sup>2</sup>E plugin in C to symbolically identify performance degradation in large software systems due to misconfiguration.

**TEACHING EXPERIENCE** • Intro to Programming Systems, Princeton, COS217 ..... Spring'24

• Intro to Programming Systems, Princeton, COS217 ..... Fall'23

• Principles of Operating Systems, JHU, CS3/4/618 ..... Fall'21

• Principles of Operating Systems, JHU, CS3/4/618 ..... Fall'20

**PUBLICATIONS** **Gongqi Huang**, Leon Schuermann, and Amit Levy. BRIDGE: A Leak-Free Hardware-Software Architecture for Parallel Embedded Systems. *In Proceedings of the 2nd Workshop on Kernel Isolation, Safety and Verification (KISV '24)*, November 2024.

Yigong Hu, **Gongqi Huang**, and Peng Huang. Pushing Performance Isolation Boundaries into Application with pBox. *In Proceedings of the 29th Symposium on Operating Systems Principles (SOSP'23)*, October 2023.

Yigong Hu, **Gongqi Huang**, and Peng Huang. Automated Reasoning and Detection of Specious Configuration in Large Systems with Symbolic Execution. *14th USENIX Symposium on Operating Systems Design and Implementation (OSDI'20)*, November 2020.