Hongkai Chen

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https://hongkai.org

EDUCATION

Arizona State University *January 2023 - Present*
PhD in Computer Science
Advisors: Yan Shoshitaishvili, Adam Doupé, Ruoyu (Fish) Wang, and Tiffany Bao

University of California, San Diego *September 2021 - December 2022*
Master of Science in Computer Science
GPA: 4.00/4.00

University of Minnesota *January 2019 - May 2021*
Bachelor of Science in Software Engineering with Honors, High Distinction
Minor in Information Technology Management
GPA: 3.947/4.00

PUBLICATIONS

[1] **Hongkai Chen**, Yuqing Yang, Chao Wang, Arpit Nandi, Moritz Schloegel, Tiffany Bao, Ruoyu Wang, Adam Doupé, Zhiqiang Lin, and Yan Shoshitaishvili. **SoK: History Doesn't Repeat Itself, but Android Design-Level Vulnerabilities Rhyme in OpenHarmony**. In *Proceedings of the 35th USENIX Security Symposium (USENIX Security '26)*, Baltimore, MD, USA, August 2026.

[2] Zehua Zhang, Ati Priya Bajaj, Divij Handa, Siyu Liu, Arvind S Raj, **Hongkai Chen**, Hulin Wang, Yibo Liu, Zion Leonahenahe Basque, Souradip Nath, Vishal Juneja, Nikhil Chapre, Tiffany Bao, Yan Shoshitaishvili, Adam Doupé, Chitta Baral, Ruoyu Wang. **Build-Bench: Benchmarking LLM Agents on Compiling Real-World Open-Source Software**. *Transactions on Machine Learning Research (TMLR)*, August 2026.

[3] **Hongkai Chen**, Chao Wang, Yuqing Yang, Jennifer Miller, Tiffany Bao, Ruoyu Wang, Adam Doupé, Zhiqiang Lin, and Yan Shoshitaishvili. **Fragile Deliveries: Inconsistencies in Android Parcel and Their Security Consequences**. In *Proceedings of the 24th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys '26)*, Cambridge, UK, June 2026.

[4] Jennifer Miller, Manas Ghandat, Kyle Zeng, **Hongkai Chen**, Abdelouahab (Habs) Benchikh, Tiffany Bao, Ruoyu Wang, Adam Doupé, and Yan Shoshitaishvili. **System Register Hijacking: Compromising Kernel Integrity By Turning System Registers Against the System**. In *Proceedings of the 34th USENIX Security Symposium (USENIX Security '25)*, Seattle, WA, USA, August 2025.

[5] **Hongkai Chen** and Mohammad Hossain. **Application of Machine Learning on Software Quality Assurance and Testing: A Chronological Survey**. In *Proceedings of 37th International Conference on Computers and Their Applications*, 82, 42-52. 2022.

[6] **Hongkai Chen** and Mohammad Hossain. **Developing a Google Chrome Extension for Detecting Phishing Emails**. In *Proceedings of ISCA 30th International Conference on Software Engineering and Data Engineering*, 77, 13-22. 2021.

AWARDS

Google Bug Hunters Honorable Mention *July 2024*

Black Hat USA 2024 Student Scholarship *May 2024*

SERVICES

Program Committee Member
ACM Workshop on Security and Safety of AI-Empowered Mobile Super Apps (SaTS) *2026*

Reviewer
ACM Transactions on Privacy and Security (TOPS) *2026*

Artifact Evaluation Committee Member
Network and Distributed System Security Symposium (NDSS) *2027*
ACM Conference on Computer and Communications Security (CCS) *2026*
IEEE Symposium on Security and Privacy (Oakland) *2026*

RESEARCH EXPERIENCES

SEFCOM Lab, Arizona State University January 2023 - Present
Research area: mobile systems security *Tempe, AZ*

- Research to solve real-world problems to enhance the security and reliability of modern mobile operating systems, such as Android.
- My research also broadens to system security in general.

Software Aurora Lab, UC Irvine February 2022 - January 2023
Research area: Android static program analysis *Remote*

- Focus on building an intent-based symbolic execution engine to analyze Android applications.
- Perform an experiment on a symbolic execution engine with multiple Android apps.

University of Minnesota Crookston January 2020 - May 2021
Research area: phishing emails *Crookston, MN*

- Employ text data mining using Tidy Data Principles to find out the Term Frequency and Inverse Document Frequency (tf-idf) to identify suspicious words for detecting phishing.
- Create a classifier to identify phishing email samples and standard email samples.
- Implement a Google Chrome extension with the classifier to detect phishing emails.

TEACHING EXPERIENCE

ASU CSE 365 Information Assurance *Fall 2023*
Teaching Assistant

MENTORSHIP

ASU High School Research Internship Program *2025*
2 students mentored (from BASIS Peoria and Hamilton High School)

PROFESSIONAL EXPERIENCE

Google Search Group May 2020 - June 2020
Project Assistant *Remote*

- Develop and implement computational linguistic models such as Word2Vec.
- Implement a novel news aggregator from different news sources.
- Handle binary classification tasks to help predict unlabeled Twitter user types.

TECHNICAL STRENGTHS

Programming Languages	Java, Python, Golang, Haskell, C#, SQL, LaTeX
Other Skills & Tools	Docker, SSH, Frida, adb, Charles, Wireshark, Mininet
Operating Systems	Linux, macOS, Windows
Languages	English (proficient, the second language), Chinese (mother tongue)