SIQI LIU

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RESEARCH INTEREST

Computer network architecture and security.

EDUCATION

University of California, Los Angeles Expected June 2023
M.S. in Computer Science.

University of California, Los Angeles March 2022
B.S. in Computer Science and B.S. in Applied Mathematics. **Overall GPA: 3.94/4.00 Major GPA: 3.94/4.00**

PUBLICATION

Conference Paper

· Tianyuan Yu, Hongcheng Xie, **Siqi Liu**, Xinyu Ma, Xiaohua Jia, Lixia Zhang. CertRevoke: a Certificate Revocation Framework for Named Data Networking. 9th ACM Conference on Information-Centric Networking(ACM ICN). Sept. 2022.

· Saurab Dulal, Nasir Ali, Adam Robert Thieme, Tianyuan Yu, **Siqi Liu**, Suravi Regmi, Lixia Zhang, Lan Wang. Building a Secure mHealth Data Sharing Infrastructure over NDN. 9th ACM Conference on Information-Centric Networking(ACM ICN). Sept. 2022.

· Zhiyi Zhang, **Siqi Liu**, Randy King, Lixia Zhang. Supporting Multiparty Signing over Named Data Networking. 8th ACM Conference on Information-Centric Networking(ACM ICN). Sept. 2021.

Poster

· **Siqi Liu**, Philipp Moll, Lixia Zhang. Mnemosyne: An Immutable Distributed Logging Framework over Named Data Networking. 8th ACM Conference on Information-Centric Networking(ACM ICN). Sept. 2021.

Workshop Paper

· **Siqi Liu**, Varun Patil, Tianyuan Yu, Alexander Afanasyev, Frank Alex Feltus, Susmit Shannigrahi, and Lixia Zhang. Designing Hydra with Centralized versus Decentralized Control: A Comparative Study. ACM CoNEXT Interdisciplinary Workshop on (de)Centralization in the Internet. December. 2021.

Preprint

· Haiyang Wang, Guangyu Zhou, **Siqi Liu**, Jyun-yu Jiang, and Wei Wang. Drug-Target Interaction Prediction with Graph Attention networks. Arxiv Preprint. Jul. 2021. https://arxiv.org/abs/2107.06099

RESEARCH EXPERIENCE

UCLA Internet Research Lab May 2020 - Present
Undergradute Researcher — Advisor: Prof. Lixia Zhang *Los Angeles, CA*

· Collaborated on Named Data Networking (**NDN**) projects on network security:

· Polished the design and implementation of a DAG-based permissioned distributed ledger over NDN with byzantine fault tolerance.

· Extended the distributed ledger for event logging in an NDN-based distributed system, as well as in certificate management and revocation system, and designed and prototyped their corresponding adaptation for the use cases.

· Spearheaded design and implementation of a framework for using multi-party signatures for NDN Data objects, from designing the signing protocol, and modeling of trust schema for signature management, to development of the supporting library and tools.

· Provided insights on designing the data privacy model for mobile health data management project over NDN with **Attribute-based Encryption**.

· Assisted on protocol and code revision of an automatic certificate authority over NDN.

UCLA Scalable Analytics Institute March 2019 - April 2020
Undergradute Researcher — Advisor: Prof. Wei Wang *Los Angeles, CA*

- Researched in a text temporal relation extraction project using Bidirectional Encoder Representation from Transformers (**BERT**) on medical text.
- Investigated the use of Graph Attention Network(**GAT**) model in drug-protein interaction prediction. It achieved a better F1-score than the state-of-the-art model.
- Assembled data processing, extraction and building experiment models.

PROFESSIONAL EXPERIENCE

Intel Corporation April 2022 - Present
Software Engineer Graduate Intern *Santa Clara, CA*

- Collaborate with senior architecture engineers in creating a cutting-edge system for network congestion management and transport optimization for future Intel Infrastructure Processing Unit(IPU).
- Simulate and Evaluate design of a programmable ASIC congestion control module with the network simulation team.
- Participate in pathfinding innovative network algorithms for data center networks.
- Optimize network performance with scenarios and metrics widely used by Cloud Service Providers (CSPs).

AWARDS

Summa Cum Laude March 2022

- UCLA Engineering School award for students with top 5% GPA.

Magna Cum Laude March 2022

- UCLA College award for students with top 10% GPA.

Tau Beta Pi June 2019 - Present

- The Engineering Honor Society in UCLA for top 1/5 of engineering students.

Upsilon Pi Epsilon June 2020 - Present

- The Computer Science Honor Society in UCLA for top 1/3 of CS students.

REFERENCES

Prof. Lixia Zhang: Professor, Computer Science	lixia@cs.ucla.edu	UCLA
Prof. George Varghese: Professor, Computer Science	varghese@cs.ucla.edu	UCLA
Dr. Rong Pan: Intel Fellow	rong.pan@intel.com	Intel