Sisheng Liang

PhD Student · Computer Science

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Research Interests

Microarchitectural Security, Physical Side-Channel Security, Adversarial Machine Learning

Teaching Interests

Computer Architecture, Operating System, Security, Data Mining, Database, Deep Learning.

Education

Clemson University *Clemson, SC*
PhD student in Computer Science *2021 Aug. - 2023(expected)*
- Advisor: Dr. Zhenkai Zhang

Texas Tech University *Lubbock, TX*
PhD Candidate in Computer Science *2018 Aug. - Jul. 2021*
- Advisor: Dr. Fang Jin & Dr. Zhenkai Zhang

Texas Tech University *Lubbock, TX*
MS ECE *Aug. 2016 - May 2018*

Tongji University *Shanghai, China*
MS Control Theory & Control Engineering *2008 - 2011*

Northeastern University *Shenyang, China*
BS Automation *2004 - 2008*

Professional Experience

2021-2023 **Graduate Research Assistant**, School of Computing, Clemson University
2020-2021 **Graduate Teaching Assistant**, Dept. of Computer Science, Texas Tech University
2018-2019 **Graduate Research Assistant**, Dept. of Computer Science, Texas Tech University
2011-2012 **Electric Vehicle Power System Engineer**, Shanghai Automotive Industry Corporation, China

Publications

Refereed Conference Proceedings

Liang, Sisheng, Zihao Zhan, Fan Yao, Long Cheng, and Zhenkai Zhang. "Clairvoyance: Exploiting Far-field EM Emanations of GPU to" See" Your DNN Models through Obstacles at a Distance." In 2022 IEEE Security and Privacy Workshops (SPW), pp. 312-322. IEEE, 2022.

Zhan, Zihao, Zhenkai Zhang, **Sisheng Liang**, Fan Yao, and Xenofon Koutsoukos. "Graphics peeping unit: Exploiting EM side-channel information of gpus to eavesdrop on your neighbors." In 2022 IEEE Symposium on Security and Privacy (SP). 2022.

Zhang, Zhenkai, **Sisheng Liang**, Fan Yao, and Xing Gao. "Red alert for power leakage: Exploiting intel rapl-induced side channels." In Proceedings of the 2021 ACM Asia Conference on Computer and Communications Security (Asia CCS), pp. 162-175. 2021.

Yang, Zhou, Zhenhe Pan, **Sisheng Liang**, and Fang Jin. "Not All Areas Are Equal: Detecting Thoracic Disease With Chest-WNet." In 2020 IEEE International Conference on Big Data (Big Data Workshop), pp. 3447-3452. IEEE, 2020.

Liang, Sisheng, Zhou Yang, Fang Jin, and Yong Chen. "Data centers job scheduling with deep reinforcement learning." In Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), pp. 906-917. Springer, Cham, 2020.

Liang, Sisheng, Long Nguyen, and Fang Jin. "A multi-variable stacked long-short term memory network for wind speed forecasting." In 2018 IEEE international conference on big data (Big Data Workshop), pp. 4561-4564. IEEE, 2018.

In Preparation

Manuscript 1: Sisheng Liang, Zihao Zhan, Zhenkai Zhang. "Leveraging EM side-channel information to detect rowhammer attacks"

Presentations

Conference Presentations

Liang, Sisheng, Zihao Zhan, Fan Yao, Long Cheng, and Zhenkai Zhang. *Clairvoyance: Exploiting Far-field EM Emanations of GPU to" See" Your DNN Models through Obstacles at a Distance*. In 2022 IEEE Security and Privacy Workshops (SPW), Oakland, California

Zhang, Zhenkai, **Sisheng Liang**, Fan Yao, and Xing Gao. *Red alert for power leakage: Exploiting intel rapl-induced side channels*. Oral presentation: In Proceedings of the 2021 ACM Asia Conference on Computer and Communications Security (Asia CCS), Hongkong, China

Liang, Sisheng, Zhou Yang, Fang Jin, and Yong Chen. Spring 2020. *Data centers job scheduling with deep reinforcement learning*. Oral presentation: In 2020 Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), Singapore

Liang, Sisheng, Long Nguyen, and Fang Jin. Fall 2018. *A multi-variable stacked long-short term memory network for wind speed forecasting*. Oral presentation: In 2018 IEEE international conference on big data (Big Data Workshop), Seattle, Washington.

Teaching Experience

Summer 2021	**Programming Principle II (with C)**, Lab instructor	*Texas Tech*
Spring 2021	**Concepts of Database Systems**, Teaching Assistant	*Texas Tech*
Spring 2021	**Advanced Algorithms**, Teaching Assistant	*Texas Tech*
Spring2020	**Information Retrieval (with Python)**, Teaching Assistant	*Texas Tech*
Spring2020	**Theory of Automata**, Teaching Assistant	*Texas Tech*

Outreach & Professional Development

Funding Proposals Writing

Personalized Opioid Addiction Intervention for Collegiate Recovery, Texas Tech, 2019.

Adaptive HPC Job Scheduling via Active Learning, Texas Tech, 2019.

Professional Memberships

IEEE Student Member