

EDUCATION

University of California, Davis

Sep 2017-Present

Davis, California, USA

Master of Science/Doctor of Philosophy in Computer Science (GPA: 3.97/4.0)

National Institute of Technology, Tiruchirappalli

Jul 2010-Aug 2014

Tiruchirappalli, Tamil Nadu, India

Bachelor of Technology in Production Engineering (GPA: 3.2/4.0)

RESEARCH INTERESTS

- Anti-fraud systems.
 - Privacy enhancing technologies.
 - Hardware based fingerprinting.
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RELEVANT EXPERIENCE

Graduate Student Researcher, University of California, Davis

Sep 2018-Present

Davis, California, USA

Applied ML and Systems research focusing on combating fraud and enhancing user-privacy.

- Designed and implemented ML based security challenges on mobile to combat card-not-present credit card fraud.
- Designed and implemented a privacy enhancing system for mobile cameras to protect user privacy from untrusted apps.
- Currently working on employing the Rowhammer exploit to extract stable device fingerprints from the DRAM.
- Currently working on the design of a privacy conscious in-browser system to combat click-fraud.

ML Research Intern, Blue Hexagon Inc

Jun 2019-Sep 2019

Sunnyvale, California, USA

Research on adversarial techniques to mutate malware to evade antivirus engines

- Identified mutations to Windows Portable Executables (PE files) that preserve their functionality.
- Developed feature vector based GAN to mutate malicious PE files based on identified mutations to evade detection by commercial Antivirus (AV) engines.

Research Collaborator, University of Arizona

Jan 2015-May 2017

Collaborated on Facial Recognition research

- Developed a face recognition system based on local binary patterns to provide graded authentication to users to access mobile apps.

Member of Technical Staff, Oracle India Private Limited

Jun 2014-Jul 2017

Bengaluru, Karnataka, India

Worked as software developer on the analytics team of Oracle Social Network(OSN).

- Designed and developed a framework to periodically collect and compute analytics on enterprise social network activity.
 - Designed features on the front-end in backbone.js for the webclient team of the same product.
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PUBLICATIONS

Centauri: Fingerprinting the Rowhammered Sky

Hari Venugopalan, Kaustav Goswami, Zainul Abi Din, Jason Lowe-Power, Zubair Shafiq and Samuel T. King
(In progress)

Aragorn: Protecting end-user privacy from camera-based apps

Hari Venugopalan, Zainul Abi Din, Trevor Carpenter, Jason Lowe-Power, Zubair Shafiq and Samuel T. King
(In review)

Doing good by fighting fraud: Ethical anti-fraud systems for mobile payments

Zainul Abi Din, Hari Venugopalan, Henry Lin, Adam Wushensky, Steven Liu and Samuel T. King
IEEE Symposium on Security and Privacy 2021

Credit Card fraud is a Computer Security Problem

Samuel T. King, Nolen Scaife, Patrick Traynor, Zainul Abi Din, Christian Peeters and Hari Venugopalan
IEEE Security and Privacy Magazine 2021

Boxer: Preventing fraud by scanning credit cards

Zainul Abi Din, Hari Venugopalan, Jaime Park, Andy Li, Weisu Yin, Haohui Mai, Yong Jae Lee, Steven Liu and Samuel T. King
Usenix Security 2020

MultiLock: Biometric-Based Graded Authentication for Mobile Devices

Shravan Aras, Chris Gniady and Hari Venugopalan
Mobiquitous 2019

OTHER EXPERIENCE

Teaching Assistant, University of California, Davis

Sep 2017-Jun 2018/Jan-2022

Davis, California, USA

Handled discussions for undergraduate and graduate courses on computer security, object oriented programming, distributed database systems and programming languages.

ACHIEVEMENTS AND AWARDS

- Awarded GGCS fellowship by the department of Computer Science at UC Davis in 2022.
- Ranked within the top 200 in India at the regional ACM-ICPC contest in 2013.
- Certified Competent Communicator and Advanced Leader Bronze by Toastmasters International.
- Trained and certified by Oracle in J2SE, J2EE and PL/SQL.

REFERENCES

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