

HARI VENUGOPALAN
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EDUCATION

University of California, Davis Sep 2017-Present (Expected graduation: Summer 2024)
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

- Authentication and 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 measuring the impact of anti-tracking technologies on bot detection.

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.

SELECT PUBLICATIONS (Full list available on [my website](#))

Freqprint: CPU frequency fingerprinting

Hari Venugopalan, Kartik Patwari, Brijesh Vora, Chen-Nee Chuah and Zubair Shafiq
(In progress)

Etrigan: Can bots vanish under the cloak of Anti-Tracking?

Hari Venugopalan, Shaoor Munir, Zubair Shafiq and Samuel T. King
(In progress)

Centauri: A Practical Rowhammer Fingerprinting Attack

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

Aragorn: Enhancing User Privacy in 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

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

Samuel T. King

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