




Karthika Subramani

Research Engineer II
Georgia Institute of Technology
School of Electrical and Computer Engineering

 karthikaa08@gmail.com
 [Google Scholar Profile](#)
 <https://karthikaS03.github.io>

Education

- 2015 - 2021 **Doctor of Philosophy**, Computer Science | *University of Georgia - Athens, GA*
Advisors: Roberto Perdisci and Kyu Hyung Lee
Thesis: “Investigating the Security of Emerging Web Technologies and their Role in Social Engineering Attacks”
- 2008 – 2012 **Bachelor of Engineering**, Computer Science | *SREC College – Tamil Nadu, India*
Graduated in top 5%. Was elected as *Joint Secretary* of CSI student chapter

Research Experience

- 2022 – Present **Research Engineer II** | *Astrolavos Lab @ Georgia Institute of Technology*
 - Advisors: Manos Antonakakis, Roberto Perdisci
 - Actively working on measuring security posture of network technologies, implementing behavior-based traffic classification and processing high-speed network traffic to enhance IDS outcomes
 - Advise students on different projects concerning network traffic analysis and classification, social engineering attacks and web crawling automation
- 2022 **Post-Doctoral Researcher** | *NIS Lab @ University of Georgia*
 - Advisor: Roberto Perdisci
 - Published 2 first-author papers related to Security of Service Workers and Phishing attacks
 - Assisted with the supervision of junior members of the laboratory
 - Advocated starting of student chapter for Women in CyberSecurity (WiCyS)
- 2015 - 2021 **Research Assistant** | *NIS Lab @ University of Georgia*
 - Advisor: Roberto Perdisci, Kyu Hyung Lee
 - Published 4 first author papers related to DDoS attacks in IXP, social engineering attacks such as spams, malvertisements and fingerprinting encrypted traffic to identify smart home devices
- 2012 – 2015 **Trainer** | *Education & Research Dept @ Infosys Ltd, Mysore, India*
 - Developed an end-to-end automated system using selenium, SQL for evaluating training assessments, significantly reducing the manual efforts involved in the evaluations of large batches of trainees.
 - Directed and mentored interns in various app development projects

Teaching Experience

- Spring 2017 **Instructor** | *University of Georgia*
 - Instructor for Discrete Mathematics course for a class of 60 students. In addition to teaching, was involved in crafting assignments and assessments
- 2015 – 2016 **Teaching Assistant** | *University of Georgia*
 - Taught multiple lab classes assisting students with lab programs and assessing their projects
- 2012 – 2015 **Trainer** | *Education & Research Dept @ Infosys Ltd, Mysore, India*
 - Trained new recruits in Java, SQL, Web and Microsoft .NET technologies handling batches of 100+ trainees
 - Developed coursework for Web technologies and e-learning portal

Scholarships & Grants

- 2023 Faculty Scholarship | Women in CyberSecurity, WiCyS 2023 Conference
- 2021 Student Grant | USENIX 2021 Conference

Research Publications

IEEE S&P'24	<p>H. Nguyen, <u>K. Subramani</u>, B. Acharya, R. Perdisci and P. Vadrevu, "C-FRAME: Characterizing and measuring in-the-wild CAPTCHA attacks," in 2024 IEEE Symposium on Security and Privacy (SP), San Francisco, CA, USA, 2024.</p> <p>[Acceptance Rate: 18%, (261/1389 submissions)]</p>
WWW'24	<p><u>Subramani, Karthika</u>, Roberto Perdisci, Pierros-Christos Skafidas, and Manos Antonakakis. 2024. Discovering and Measuring CDNs Prone to Domain Fronting. In Proceedings of the ACM on Web Conference 2024 (WWW '24). Selected for Oral Presentation.</p> <p>[Acceptance Rate: 20%, (405/2008 submissions)]</p> <p>[selected for Oral presentation ~ only 50% accepted papers]</p>
IMC '22	<p><u>Subramani, Karthika</u>, William Melicher, Oleksii Starov, Phani Vadrevu, and Roberto Perdisci. "PhishInPatterns: measuring elicited user interactions at scale on phishing websites." In Proceedings of the 22nd ACM Internet Measurement Conference, 2022.</p> <p>[Acceptance Rate: 26%, (56/212 submissions)]</p>
EURO S&P '22	<p><u>Subramani, Karthika</u>, Jordan Jueckstock, Alexandros Kapravelos, and Roberto Perdisci. "SoK: Workerounds-Categorizing Service Worker Attacks and Mitigations." In 2022 IEEE 7th European Symposium on Security and Privacy (EuroS&P), IEEE, 2022.</p> <p>[Acceptance Rate: 29%, (42/141 submissions)]</p>
PMC '22	<p><u>Subramani, Karthika</u>, Omid Setayeshfar, Xingzi Yuan, Raunak Dey, Dezhi Hong, In Kee Kim, and Kyu Hyung Lee. "Privacy invasion via smart-home hub in personal area networks." Pervasive and Mobile Computing 85 (2022).</p> <p>[Acceptance Rate: 25%, (53/216 submissions)]</p>
DIMVA '21	<p><u>Subramani, Karthika</u>, Roberto Perdisci, and Maria Konte. "Detecting and Measuring In-The-Wild DRDoS Attacks at IXPs." In International Conference on Detection of Intrusions and Malware, and Vulnerability Assessment, 2021.</p> <p>[Acceptance Rate: 29%, (19 /65 submissions)]</p>
SMARTCOMP '21	<p><u>Subramani, Karthika</u>, Omid Setayeshfar, Xingzi Yuan, Raunak Dey, Dezhi Hong, Kyu Hyung Lee, and In Kee Kim. "ChatterHub: Privacy Invasion via Smart Home Hub." In 2021 IEEE International Conference on Smart Computing (SMARTCOMP), IEEE, 2021.</p> <p>[Acceptance Rate: 25% , (53/216 submissions)]</p>
IMC '20	<p><u>Subramani, Karthika</u>, Xingzi Yuan, Omid Setayeshfar, Phani Vadrevu, Kyu Hyung Lee, and Roberto Perdisci. "When push comes to ads: Measuring the rise of (malicious) push advertising." In Proceedings of the ACM Internet Measurement Conference, 2020.</p> <p>[Acceptance Rate: 25%, (53/216 submissions)]</p>

Poster Sessions

May 2024	<p>Discovering and Measuring CDNs prone to Domain Fronting <i>WWW 2024, Poster Session</i></p>
Jul 2022	<p>Workerounds - Categorizing Service Worker Attacks and Mitigations <i>2022 CAE in Cybersecurity Symposium</i></p>
Dec 2019	<p>IXmon: detecting and analyzing DRDoS attacks at internet exchange points <i>ACSAC 2019, Poster Session</i></p>
Oct 2019	<p>SmartRecon: Spy on Smart-Home Devices Hidden Behind the Hub <i>Research Day at University of Georgia</i> <i>[Awarded 3rd Prize]</i></p>
Apr 2018	<p>A Detailed Study of Phishing Sites via Site Deconstruction & Clustering Techniques <i>Research Day at University of Georgia</i></p>

Invited Talks

Conferences

May 2024	Discovering and Measuring CDNs Prone to Domain Fronting <i>WWW 2024</i>
Oct 2022	PhishInPatterns: Measuring Elicited User Interactions at Scale on Phishing Websites <i>IMC 2022</i>
July 2021	Detecting and Measuring In-The-Wild DRDoS Attacks at IXPs <i>DIMVA 2021</i>
May 2020	When Push comes to Ads: Measuring the Rise of (Malicious) Push Advertising <i>IMC 2020</i>

Seminars & Guest Lectures

Mar 2023	PhishInPatterns: Measuring Elicited User Interactions at Scale on Phishing Websites <i>Centers of Academic Excellence in Cybersecurity</i>
Nov 2022	PhishInPatterns: Measuring Elicited User Interactions at Scale on Phishing Websites <i>Palo Alto Networks, Security Seminar</i>
Oct 2022	PhishInPatterns: Measuring Elicited User Interactions at Scale on Phishing Websites <i>University of Georgia, Guest Lecture in Computer Networks Course</i>
Nov 2020	When Push comes to Ads: Measuring the Rise of (Malicious) Push Advertising <i>Georgia Institute of Technology, Cyber Security Lecture Series</i>

Services

Professional

2025	Program Committee WWW'25
2024	Reviewer TWeb
2024	Mentor for Artifacts Evaluation ACSAC'24
2024	Program Committee ACSAC'24
2024	Program Committee MADWeb'24
2024	Program Committee WWW'24
2023	Mentor for Artifacts Evaluation ACSAC'23
2023	Program Committee ACSAC'23
2023	Reviewer (Mentorship Program) SecWeb'23
2023	Judge for Poster Session WiCys'23
2023	Peer Reviewer TOPS
2022	Peer Reviewer TOPS
2022	Member WiCys'22
2021	External Reviewer EUROSP'21

Institutional and Volunteering

2023	Volunteer Judge for K-12 School Stem Competition
2019 - 2021	Executive Member Computer Science Graduate Student Association at UGA
2016 - 2017	Public Relations Officer Indian Student Association at UGA
2014 - 2015	Tutor for Underprivileged Kids Make a Difference NGO

Awards

2022	Creative Solving for a CTF Challenge WiCys CTF Challenge
2019	3 rd Place, Poster Competition at Research Day University of Georgia, USA
2015	Tech Champion Infosys Ltd., India
2011	1 st Place, C Programming Code Champion Sri Ramakrishna Engineering College, India
2010	2 nd Place, Project Presentation Ranganathan Engineering College, India

References

Roberto Perdisci

Director,
Institute for Cybersecurity and Privacy,
University of Georgia
perdisci@uga.edu

Manos Antonakakis

Professor and Dean Professorship,
School of Electrical and Computer Engineering,
Georgia Institute of Technology
manos@gatech.edu

Phani Vadrevu

Assistant Professor,
Louisiana State University
kvadrevu@lsu.edu

Oleksii Starov

Research Manager,
Palo Alto Networks
ostarov@paloaltonetworks.com

Alexandros Kapravelos

Associate Professor,
North Carolina State University
akapravelos@ncsu.edu