Curriculum Vitae

Ramakrishnan Sundara Raman

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Research Interests

My research interests lie in the area of Internet security and privacy, with a focus on using Internet measurement methods to detect, analyze and prevent large-scale threats to Internet users' security and privacy.

Publications

[1] **A Large-scale Investigation into Geodifferences in Mobile Apps**
R. Kumar, A. Virkud, **R. Sundara Raman**, A. Prakash, and R. Ensafi
USENIX Security Symposium, August 2022

[2] **A Multi-Perspective View of Internet Censorship in Myanmar**
R. Padmanabhan, A. Filastò, M. Xynou, **R. Sundara Raman**, K. Middleton, M. Zhang, D. Madory, M. Roberts, and A. Dainotti
ACM SIGCOMM 2021 Workshop on Free and Open Communications on the Internet (FOCI), August 2021

[3] **Lost in Transmission: Investigating Filtering of COVID-19 Websites**
A. Vyas**, R. Sundara Raman**, N. Ceccio, P. Lutscher, and R. Ensafi
Financial Cryptography and Data Security (FC), March 2021.

[4] **Censored Planet: An Internet-wide, Longitudinal Censorship Observatory**
R. Sundara Raman, P. Shenoy, K. Kohls, and R. Ensafi
ACM Conference on Computer and Communications Security (CCS), November 2020.

[5] **Investigating Large Scale HTTPS Interception in Kazakhstan**
R. Sundara Raman, L. Evdokimov, E. Wustrow, A. Halderman, and R. Ensafi
ACM Internet Measurement Conference (IMC), October 2020.

[6] **Measuring the Deployment of Network Censorship Filters at Global Scale**
R. Sundara Raman, A. Stoll, J. Dalek, R. Ramesh, W. Scott, R. Ensafi
Network and Distributed System Security Symposium (NDSS), February 2020.

[7] **Decentralized Control: A Case Study of Russia**
R. Ramesh, **R. Sundara Raman**, M. Bernhard, V. Ongkowijaya, L. Evdokimov, A. Edmundson, S. Sprecher, M. Ikram, R. Ensafi
Network and Distributed System Security Symposium (NDSS), February 2020.

Education

PHD CANDIDATE | AUGUST 2018 - PRESENT | UNIVERSITY OF MICHIGAN, ANN ARBOR, USA | SECURITY AND PRIVACY
Focus: Network Security and Privacy, Internet Measurement
Advisor: Dr. Roya Ensafi
My primary research interests surround Internet Security and Privacy. In particular, I am interested in using Internet measurement methods to detect, analyze and prevent large-scale threats to Internet users' security and privacy. My current research involves measuring Internet censorship and network interference at global scale. My work also involves understanding and analyzing the technologies that enable censorship and surveillance. I lead work on the Censored Planet Observatory (https://censoredplanet.org), which is a platform for measuring various types of network interference continuously around the world.
CGPA: 3.95

BACHELOR OF TECHNOLOGY | JUNE 2013 - MAY 2017 | VELLORE INSTITUTE OF TECHNOLOGY, VELLORE, INDIA | COMPUTER SCIENCE AND ENGINEERING
Rank in branch: 2 out of 648
CGPA: 9.69

Work Experience

OTF SENIOR ICFP FELLOW IN INFORMATION CONTROLS | NOVEMBER 2021 - JUNE 2022 | THE CITIZEN LAB, UNIVERSITY OF TORONTO
As an information control fellow working with the Citizen Lab, my project focuses on identifying the deployments of network devices that perform censorship by using data from Internet measurements.

GRADUATE STUDENT INSTRUCTOR - EECS 588 |AUGUST 2020 - DECEMBER 2020| UNIVERSITY OF MICHIGAN, ANN ARBOR, USA
I worked as the lead graduate student instructor for EECS 588 - the graduate level computer and network security course in the department. My responsibilities included helping with designing the course and assessments, leading classes in the absence of the instructor, holding office hours, helping students with their course projects, and grading.
Website: https://www.eecs.umich.edu/courses/eecs588/

RESEARCH ASSISTANT |AUGUST 2018 - PRESENT | UNIVERSITY OF MICHIGAN, ANN ARBOR, USA
I work as a graduate student research advised by Prof. Roya Ensafi, and my research focuses on problems in Internet Security and Privacy.

ASSOCIATE CONSULTANT | MICROSOFT GLOBAL DELIVERY | JULY 24, 2017 - May 31, 2018
I worked in the Business Applications domain to build Enterprise Systems that can deliver value to large organizations around the world.

RESEARCH INTERN | MARCH 2017 - JULY 2017 | UNIVERSITY OF MARYLAND, COLLEGE PARK, USA | SYSTEMS AND NETWORKING
Focus: Internet Measurement
Advisor: Dr. Neil Spring
As an undergraduate research scholar, I worked in the Systems and Networking lab on a project that involved measuring last-mile residential Internet outages in areas affected by severe weather conditions. I worked with the ThunderPing tool, which uses several distributed vantage points to ping residential IP addresses. My goals at UMD were twofold: to develop a real-time system for detecting and visualizing Internet outages and to categorize detected outages by their potential cause, such as network and power outages. I designed and built a web-based visualization that uses ThunderPing's probes to detect and display residential outages in real time. My group and I also worked on detecting instances of correlated outages, such as those caused by network and power failure, in the data we had collected.
Poster presented at ACM Internet Measurement Conference 2017: "Measuring Last-Mile Internet Reliability During Severe Weather"

INTERN | MICROSOFT GLOBAL DELIVERY| MAY 30,2016 –JULY 22, 2016
During my summer internship, I worked as a data analytics consultant. The internship involved a team effort to integrate data analytics into Microsoft's project management tool. The tool was built on ASP.NET and Microsoft's Power BI tool was utilized to make interactive reports that provided valuable insight to the users.

INTERN | OSI CONSULTING PRIVATE LIMITED | JUNE 2015
My summer internship involved training in PL/SQL and Oracle Software with qualified internal employees. Multiple projects and assignments were completed during the period of internship.

Talks

[1] **Invited Talk: Censored Planet Community Webinar 2021**
Censored Planet, October 2021

[2] **Invited Talk: Censored Planet: An Internet-wide Longitudinal Observatory**
NDSS DNS Privacy Workshop (DNSPriv), February 2021.

[3] **Conference Talk: Censored Planet: An Internet-wide Longitudinal Observatory**
ACM Conference on Computer and Communications Security (CCS), November 2020.
https://youtu.be/8dwZdNkJ508

[4] **Conference Talk: Investigating Large Scale HTTPS Interception in Kazakhstan**
ACM Internet Measurement Conference (IMC), October 2020.
https://youtu.be/RoYWsfNOCr4

[5] **Invited Talk: Censored Planet: Measuring Internet censorship remotely**
OONI Internet Measurement Village (IMV), June 2020
https://youtu.be/5IgnvR42cMQ

[6] **Conference Talk: Measuring the Deployment of Network Censorship Filters at Global Scale**
Network and Distributed System Security Symposium (NDSS), February 2020
https://youtu.be/R8VlHOwakQk

Awards

[1] **OTF Information Controls Fellowship (ICFP) Award**
November 2021

[1] **University of Michigan CSE GSI Honorable Mention Award**
August 2021

[2] **University of Michigan CSE Graduate Student Honors Award**
November 2020
https://cse.engin.umich.edu/stories/2020-cse-graduate-student-honors-competition-highlights-outstanding-research

[3] **ACM IMC 2020 Best paper award nominee**
October 2020

Reports and Blog Posts

[1] **Blog Post: An analysis of a large-scale HTTPS interception**

APNIC Blog, February 2021.

https://blog.apnic.net/2021/02/15/an-analysis-of-a-large-scale-https-interception/

[2] **Technical Report: US Government and military websites are geoblocked from Hong Kong and China**

Censored Planet, August 2020

https://censoredplanet.org/hongkong

Service

SESSION CHAIR AT FOCI '21 | 2021

Served as the session chair for the HTTPS censorship session at the ACM SIGCOMM 2021 Workshop on Free and Open Communications on the Internet (FOCI 21).
Workshop Website: https://conferences.sigcomm.org/sigcomm/2021/workshop-foci.html

PC MEMBER AT FOCI '21 | 2021

Served as a technical program committee member for ACM SIGCOMM 2021 Workshop on Free and Open Communications on the Internet (FOCI 21).

OUTREACH CHAIR AT CSEG | JUNE 2020 – PRESENT

I currently work as the Outreach Chair at my department's graduate student organization. My responsibilities include arranging and managing outreach events throughout the year that aimed at spreading knowledge about computer science research in various schools, colleges and groups.

Programming Languages

Golang, Ruby, Python, JavaScript, C, C++, C#