

Curriculum Vitae

Ramakrishnan Sundara Raman

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Research Interests

Internet Security and Privacy, Internet Measurement

Publications

[1] 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.

[2] 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 Student | August 2018 - PRESENT | UNIVERSITY OF MICHIGAN, ANN ARBOR, USA | SECURITY AND PRIVACY

Focus: Network Security and Privacy, Internet Measurement

Advisor: Dr. Roya Ensafi

As part of the Censored Planet Lab, I work on improving security and privacy in the Internet. 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, which is a platform for measuring various types of network interference continuously around the world.

Lab Website: <https://censoredplanet.org>

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 address. 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"

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

ASSOCIATE CONSULTANT | MICROSOFT GLOBAL DELIVERY | JULY 24, 2017 – PRESENT

Working in the Business Applications domain to build Enterprise Systems that can deliver value to large organizations around the world.

INTERN | MICROSOFT GLOBAL DELIVERY | MAY 30, 2016 – JULY 22, 2016

Summer Internship at Microsoft Global Delivery, Hyderabad where 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

Summer Internship and training in PL/SQL at OSI Consulting Private Limited, Hyderabad. The internship involved training in PL/SQL and Oracle Software with qualified internal employees. Multiple projects and assignments were completed during the period of internship.

Projects

CENSOREDPLANET OBSERVATORY | AUGUST 2018 – PRESENT

I am the primary developer and maintainer of the Censored Planet Observatory, which is a platform for measuring Internet censorship and network interference continuously and globally. The observatory uses thousands of remote infrastructural vantage points from over 170 countries to continuously monitor disruption tactics used by authorities around the world. All data collected using the Observatory is made public for use by researchers and policy-makers, and we have already released several reports based on data from the Observatory. I also maintain the Observatory website, which contains several visualizations of our data.

Website: <https://censoredplanet.org/observatory>

THUNDERPING LIVE | MARCH 2017 – JULY 2017

A live version of the tool ThunderPing that measures residential Internet outages in areas affected by severe weather. The website was built using Ruby on Rails. The website quickly analyses data recorded by the different vantage points and shows the number of IPs up and number of IPs down on a map. It also provides details such as the weather alerts issued for a county and state-wise outage statistics.

Skills & Abilities

MANAGEMENT AND COMMUNICATION

Manager of the Outreach Wing of SEDS-VIT – Worked on the board of directors of SEDS-VIT for a year starting July 2015 to June 2016. Students for the Exploration and Development of Space (SEDS) are an international student organization based in Massachusetts Institute of Technology, USA. My tasks were to arrange and manage various outreach events throughout the year that aimed at spreading knowledge about space sciences in various schools and colleges in the district where my University was situated.

JOB RELATED SKILLS

Programming Languages: Ruby, Golang, Python, C, C++, C#, JavaScript, PL/SQL, HTML, Arduino, .NET programming.

Standard Test Scores

GRE – 334/340; Verbal: 167/170; Quantitative: 167/170; Analytical Writing: 4.0/6.0

TOEFL – 115/120; Reading: 30/30; Listening: 28/30; Speaking: 27/30; Writing: 30/30