

Ramakrishnan Sundara Raman

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Research Interests

Computer Security and Privacy, Internet Measurement

Education

**PHD IN COMPUTER SCIENCE | JULY 2018 - PRESENT | UNIVERSITY OF MICHIGAN, ANN ARBOR, USA |
COMPUTER SECURITY AND PRIVACY**

Advisor: Dr. Roya Ensafi

My research focuses broadly on Computer Security and Privacy. I am interested in working with problems that measure availability and reliability across the Internet.

**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.

Website: <http://bluepill.cs.umd.edu:3000/map/countymap>

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

**12TH STANDARD | MAY 2013 | ARYA CENTRAL SCHOOL, PATTOM, TRIVANDRUM, INDIA | COMPUTER
SCIENCE**

95.4% (ranked 4th in the school) in CBSE Board.

10TH STANDARD | MAY 2011 | ARYA CENTRAL SCHOOL, PATTOM, TRIVANDRUM, INDIA

CGPA of 10 in CBSE Board.

Work Experience

ASSOCIATE CONSULTANT | MICROSOFT GLOBAL DELIVERY | JULY 24, 2017 – MAY 18, 2018

I worked as a technical consultant in Microsoft's Business Applications domain. I worked with multinational teams to design and develop specialized Dynamics 365 FO solutions for enterprise organizations.

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

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.

CRADLE | MARCH 2016 – DECEMBER 2017

Cradle is a **Smart Infant Monitoring System** designed to help prevent SIDS (Sudden Infant Death Syndrome). A winner in the **Microsoft Campus Connect program** held at VIT University, the Cradle project has since then been funded by the Senior Management Team of VIT University. Cradle is a first of its kind innovation in the Indian market, employing sensor networks, data sciences and machine learning to monitor an infant's vitals and send reports to parents' and/or caretakers' smart phones using a dedicated App. Data collected and monitored by a wearable on the infant or its clothing sent to the Azure cloud services via a WiFi enabled gateway in the infant's room.

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.

My time at SEDS also helped me gain experience as a committee coordinator for SEDS International Conference 2015 held in VIT University (March 13th and March 14th, 2015) and as a conference organizer for SEDS India National Conference 2016 (March 5th and March 6th, 2016).

JOB RELATED SKILLS

Programming Languages: Ruby, C, C++, C#, JavaScript, Python, HTML, Arduino, .NET programming, GoLang.

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