




Siva Kesava Reddy Kakarla

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Interests

I am a fourth year PhD Student in the Network Verification (NetVerify) Group at University of California, Los Angeles. My research interests lie at the intersection of Networks and Programming Languages.

Education


- 2017 – Present **M.S. and Ph.D. in Computer Science.**
University of California, Los Angeles (UCLA), CA, USA.
CGPA: 4.0 / 4.0.
Advisors: [Prof. Todd Millstein](#) and [Prof. George Varghese](#)
- 2013 – 2017 **B. Tech. in Computer Science and Engineering (Honors).**
Indian Institute of Technology, Kharagpur, India.
CGPA: 9.67 / 10.0.

Publications

- SOSP '21** **FERRET: Automatic Generation of High Coverage Tests for DNS Nameserver Implementations**
(In submission)
[Siva Kesava Reddy Kakarla](#), Ryan Beckett, Todd Millstein, George Varghese.
- SIGCOMM '21** **CAMPION: Debugging Router Configuration Differences**
Alan Tang, [Siva Kesava Reddy Kakarla](#), Ryan Beckett, Ennan Zhai, Matt Brown, Todd Millstein, Yuval Tamir, George Varghese.
- SIGCOMM '20** **GROOT: Proactive Verification of DNS Configurations. (Best Student Paper Award)**
[Siva Kesava Reddy Kakarla](#), Ryan Beckett, Behnaz Arzani, Todd Millstein, George Varghese.
 *Proceedings of the Conference of the ACM Special Interest Group on Data Communication, SIGCOMM 2020*, pages 310–328.
Artifact https://github.com/dns-groot/2020_SIGCOMM_Artifact_157
- NSDI '20** **Finding Network Misconfigurations by Automatic Template Inference (SELFSTARTER).**
[Siva Kesava Reddy Kakarla](#), Alan Tang, Ryan Beckett, Karthick Jayaraman, Todd Millstein, Yuval Tamir, George Varghese.
 *Proceedings of the 17th USENIX Symposium on Networked Systems Design and Implementation, NSDI 2020*, pages 999–1013.
Artifact <https://github.com/SivaKesava1/SelfStarter>


arXiv'19 **Expect More from the Network: DDoS Mitigation by FITT in Named Data Networking.**

Zhiyi Zhang, Vishrant Vasavada, **Siva Kesava Reddy Kakarla**, Eric Osterweil, and Lixia Zhang.

 CoRR, abs-1902-09033.

GLOBECOM'17 **IEEE 802.11ac DBCA: A Tug of War between Channel Utilization and Fairness.**

Mahankali Saketh, **Siva Kesava Reddy Kakarla**, Raja Karmakar, Samiran Chattopadhyay, Sandip Chakraborty.

 *Proceedings of the IEEE Global Communications Conference, 2017*, pages 1–6.

Awards and Honors

- 2021 **Finalist (top 3.5%)** for the Facebook PhD Fellowship Program
- 2020 “Best Student Paper” award at the ACM SIGCOMM 2020
- 2018–2019 **UCLA Dean’s Graduate Student Research (GSR) Fellowship**
- 2017 **UCLA Graduate Dean’s Scholar Award (GDSA)**, the prestigious award offered to the department’s top incoming PhD student
- 2013 – 2017 **JBNSTS Scholarship**
- 2013 All India Rank-330 in IIT-JEE Advance
- 2013 All India Rank-229 in Joint Entrance Examination(JEE) Mains
- 2011 – 2013 **KVPY Fellowship** from Dept. of Science and Technology, India

Talks and Presentations

- May '21 “So you think your Nameservers are Correct?”: Finding Errors Automatically in Name-server Implementations – [DNS-OARC 35](#) *Virtual*
- Aug '20 GROOT – The 2020 ACM SIGCOMM Conference *Virtual*
- Jul '20 GROOT – Intentionet *Virtual*
- Feb '20 SELFSTARTER – The 2020 NSDI Conference *Santa Clara, CA*
- Sep '19 GROOT – MNR Group, Microsoft Research *Redmond, WA*
- Aug '19 SELFSTARTER – Intentionet and Microsoft Research *Seattle/Redmond, WA*

Research Experience

UCLA Finding Errors Automatically in DNS Nameserver Implementations

(Graduate RA) with *Ryan Beckett (MSR), Prof. Todd Millstein, and Prof. George Varghese* Fall '20 – Present

Google Finding Topology Errors by Graph Templating of Google Metro Networks

(Intern) with *Jayaram Mudigonda, and Anees Shaikh, NetInfra Group.* *Summer '20*

Microsoft GROOT: Proactive Verification of DNS Configurations

(Intern, Remote) with *Ryan Beckett, Behnaz Arzani (MNR Group, MSR), Prof. Todd Millstein, and Prof. George Varghese* *Summer '19 – Spring '20*

UCLA Finding Network Misconfigurations by Automatic Template Inference

(Graduate RA) with *Ryan Beckett (Mobility and Networking group, Microsoft Research), Karthick Jayaraman (Windows Azure security group, Microsoft), Prof. Todd Millstein, Prof. Yuval Tamir, and Prof. George Varghese* *Summer '18 – Summer '19*

UCLA Producer-Assisted Pushback

(Course Project) with *Prof. Lixia Zhang*, Internet Research Lab. *Winter '18 – Spring '18*

IIT Kharagpur Does QUIC Kill Your Data Plan? A View Using YouTube Adaptive Streaming Clients

(UG Thesis) with *Prof. Sandip Chakraborty*, Complex Network Research Group (CNeRG). *Fall '16 – Spring '17*

IIT Kharagpur IEEE 802.11ac DBCA: A Tug of War Between Channel Utilization & Fairness

(UG RA) with *Prof. Sandip Chakraborty*, Complex Network Research Group (CNeRG). *Fall '16 – Spring '17*

IISc Bangalore Experimenting with Akka Package

(Intern) with *Prof. Komondoor V. Raghavan*, Compilers, PL and SE Group. *Summer '15*

Professional Experience

LinkedIn Enhancement of LinkedIn spam detection tool with dependency injection model and Mockito unit tests

(Intern) with *Prashanth Nimmagadda*, Content Filtering & Spam Detection Team. *Summer '16*

Teaching Experience

UCLA CS 118 – Computer Network Fundamentals

Graduate Teaching Assistant

Fall '19