Saksham Agarwal

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Research Interests

○ Networking, Systems and Hardware.

Education

○ **Cornell University**
  PhD, Computer Science   *2017–2024 (Expected)*
  Advisor: Prof. Rachit Agarwal

○ **Indian Institute of Technology (IIT) Kanpur**
  B.Tech, Electrical Engineering   *2013–2017*
  Advisor: Prof. Ajit Kumar Chaturvedi

Honors & Awards

○ Received **Google PhD Fellowship** 2019
○ Received **Best Student Paper Award** at SIGCOMM 2018
○ Received **Cornell University Fellowship** 2017-2018
○ Received **Outstanding TA Award** from Cornell CS for CS 4450 (Computer Networks), Spring 2018
○ Awarded the **Honda Young Engineer and Scientists Award** - 2015 for excellence in the areas of science and technology
○ Selected for the **KVPY Fellowship** 2013, Dept. of Science & Technology, Govt. of India

Publications

○ **Building a Partial Communication Synchrony Abstraction on Asynchronous Datacenters** [Link]
  Saksham Agarwal, Qizhe Cai, Rachit Agarwal, David Shmoys, Amin Vahdat
  USENIX NSDI 2024

○ **Host Congestion Control**   [Link]
  Saksham Agarwal, Arvind Krishnamurthy and Rachit Agarwal
  ACM SIGCOMM 2023

○ **Understanding Host Interconnect Congestion**   [Link]
  Saksham Agarwal, Rachit Agarwal, Behnam Montazeri, Masoud Moshref, Khaled Elmeleegy, Luigi Rizzo,
  Marc Asher de Kruijf, Gautam Kumar, Sylvia Ratnasamy, David Culler and Amin Vahdat
  ACM HotNets 2022

○ **CodedBulk: Inter-Datacenter Bulk Transfers using Network Coding**   [Link]
  Shih-Hao Tseng, Saksham Agarwal, Rachit Agarwal, Hitesh Ballani and Ao Tang
  USENIX NSDI 2021

○ **Sincronia: Near-optimal Network Design for Coflows**   [Link]
  Saksham Agarwal*, Shijin Rajakrishnan*, Akshay Narayan, Rachit Agarwal, David Shmoys and Amin Vahdat
  ACM SIGCOMM 2018, **Best Student Paper**

○ **Likelihood-based tree search for low complexity detection in large MIMO systems** [Link]
  Saksham Agarwal, Abhay Kumar Sah and AK Chaturvedi
  IEEE Wireless Communications Letters, 2017

○ **ECG signal analysis using wavelet coherence and s-transform for classification of cardiovascular**

diseases   [Link]
Saksham Agarwal, Vignesh Krishnamoorthy and Sawon Pratiher
IEEE ICACCI 2016

o **Vehicle trajectory prediction using a catadioptric omnidirectional camera**   [Link]
Vignesh Krishnamoorthy, Saksham Agarwal and KS Venkatesh
IEEE ICACCI 2016

Experience

o **Google, Inc.**   **Sunnyvale**
Research Intern, Mentors: Amin Vahdat & Nandita Dukkipati   *May 2021 - Aug 2021*
Characterized host congestion problem in Google's large-scale production clusters.

o **Google, Inc.**   **Sunnyvale**
Research Intern, Mentors: Amin Vahdat & Nandita Dukkipati   *May 2020 - Aug 2020*
Designed a receiver-driven transport protocol that works for oversubscribed topologies

Teaching Experience

o TA, CS 4450 (Computer Networks), Spring 2018, 2019 & 2020
o Gave a guest lecture for CS 6450 (Advanced Computer Networks) in Spring 2023
o Gave a guest lecture for CS 5220 (Applications of Parallel Computers) in Spring 2023