RAHUL BOTHRA

Email: bothra2@illinois.edu

EDUCATION

University of Illinois, Urbana-Champaign 2023 - 2028 (expected)
Ph.D. in Computer Science
Advisor: Prof. Brighten Godfrey

Birla Institute of Technology and Science, Pilani 2016 - 2020
B.E. in Computer Science

EXPERIENCE

Microsoft Research 2020 - 2023
Research Fellow, advised by Venkat Padmanabhan and Ranjita Bhagwan

- Optimized resource provisioning and scheduling for Microsoft Teams – projected cost savings of USD 10M/year.
- Analyzed how Teams' user actions vary with network performance, which gave new insights for network optimizations.
- Optimized ML training communication for legacy hardware (TCP/Ethernet), resulting in 30% higher throughput.

Microsoft Spring 2020
Software Engineer, Azure Migrate
Built a service to assess the application requirements and resource usage of a customer's in-house datacenter, and suggest a suitable deployment in Azure to help users migrate.

PUBLICATIONS

Switchboard: Efficient resource management for conferencing services
Rahul Bothra, Rohan Gandhi, Ranjita Bhagwan, Venkat Padmanabhan et. al.
ACM SIGCOMM 2023

Don't forget the user: It's time to rethink network measurements
Rahul Bothra*, Aryan Taneja*, Ranjita Bhagwan, Venkat Padmanabhan et. al.
ACM HOTNETS 2023

Archie: CAD for network architectures
Rahul Bothra, Venkat Arun, Akshay Narayan, Ahmed Saeed
Under submission

FaultFerence: Localizing failures among symmetric components
Rahul Bothra*, Vipul Harsh*, Brighten Godfrey
Under submission

Saving Private WAN: Using internet paths to offload WAN traffic at scale
Bhaskar Kataria, Palak LNU, **Rahul Bothra**, Venkat Padmanabhan et. al.
Under submission

PROJECTS

P4-TrafficTool
Advisor: Prof. Ben Leong
Optimized P4-Traffictool to parse P4 programs and generate protocol and packet templates for popular frameworks like Scapy, MoonGen, Wireshark, etc. source

Hyperloop India, SpaceX Global Challenge
Designed and manufactured the MagLev system with Neodymium magnets for a Hyperloop prototype, and piloted at the SpaceX Global Challenge finals.

Sugar Labs
Advisor: Walter Bender, James Cameron
Sugar is a learning platform designed for primary school children with limited access to technology. I worked as an open source contributor for over two years. I fixed critical bugs in the core OS and libraries, and designed various pedagogy applications.

AWARDS

KVPY Fellowship
Ranked 357 out of over 100,000 candidates; awarded fellowship to pursue research in pure sciences.

NTSE Scholarship
Awarded to 750 out of over 1,000,000 students based on technical and aptitude examinations.