

Anup Agarwal

GHC 9005, 4902 Forbes Ave
Pittsburgh, PA 15213

anupa@andrew.cmu.edu
+1 (412) 636-6838

Research Interests Networked Systems, Transport protocols, Performance Modeling/Verification, Resource Management, Automated Reasoning

Education

- **Carnegie Mellon University (CMU)** 2019–Present
Ph.D. in Computer Science
Advisor: Prof. Srinivasan Seshan
- **Carnegie Mellon University** 2019–2022
Master of Science in Computer Science - Research
Advisor: Prof. Srinivasan Seshan
- **Indian Institute of Technology (IIT) Guwahati** 2015–2019
B.Tech in Computer Science and Engineering
GPA: 9.94/10

Awards, Honors and Grants

- **President of India Gold Medal** at IIT Guwahati 2019
Awarded for highest GPA in my cohort across all departments.
- **Institute Merit Scholarship (IMS)** at IIT Guwahati 2016–2018
Awarded for highest GPA for the corresponding year(s) in my department.

Publications

1. Towards provably performant congestion control
Anup Agarwal, Venkat Arun, Devdeep Ray, Ruben Martins, Srinivasan Seshan.
USENIX NSDI 2024 (to appear)
2. Unlocking unallocated cloud capacity for long, uninterruptible workloads
Anup Agarwal, Shadi Noghahi, Íñigo Goiri, Srinivasan Seshan, Anirudh Badam.
USENIX NSDI 2023
3. Automating network heuristic design and analysis
Anup Agarwal, Venkat Arun, Devdeep Ray, Ruben Martins, Srinivasan Seshan.
ACM HotNets 2022
4. HeteroSketch: Coordinating Network-wide Monitoring in Heterogeneous and Dynamic Networks
Anup Agarwal, Zaoxing Liu, Srinivasan Seshan.
USENIX NSDI 2022
5. Virtual Battery: Redesigning Cloud Computing for Renewable Energy.
Anup Agarwal*, Jinghan Sun*, Shadi Noghahi, Srinivasan Iyengar, Anirudh Badam, Ranveer Chandra, Srinivasan Seshan, Shivkumar Kalyanaraman.
ACM HotNets 2021 * denotes equal contribution
6. Sketchy With a Chance of Adoption: Can Sketch-Based Telemetry Be Ready for Prime Time?
Zaoxing Liu, Hun Namkung, **Anup Agarwal**, Antonis Manousis, Peter Steenkiste, Srinivasan Seshan, Vyas Sekar.
IEEE TaPoPF Workshop 2021
7. ABC: A Simple Explicit Congestion Control Protocol for Wireless Networks
Prateesh Goyal, **Anup Agarwal**, Ravi Netravali, Mohammad Alizadeh, and Hari Balakrishnan.
USENIX NSDI 2020

- Opportunistic Sensing with Mic Arrays on Smart Speakers for Distal Interaction and Exercise Tracking
Anup Agarwal, Mohit Jain, Pratyush Kumar, Shwetak Patel.
IEEE ICASSP 2018

Posters

- Network-wide Monitoring over Heterogeneous Devices
Anup Agarwal, Zaoxing Liu, and Srinivasan Seshan.
USENIX NSDI 2020

Industry Experience & Internships

- **Research Intern (Part time), Microsoft Research** Summer 2021
Network Research Group & Research for Industry Redmond, WA (Virtual)
with *Shadi Noghabi, Anirudh Badam*
- **Research Intern, Microsoft Research** Summer 2020
Azure Global Research Team Redmond, WA (Virtual)
with *Anirudh Badam, Íñigo Goiri, Ranveer Chandra*
- **Intern, Tower Research Capital** Summer 2019
Developer Tools Team Gurugram, India
 - Built CI/CD pipeline for internal packages managed by conda.
 - Fixed concurrency issues in conda.
- **Research Intern, Massachusetts Institute of Technology** Summer 2018
with *Prateesh Goyal, Prof. Ravi Netravali,* Cambridge, MA
Prof. Hari Balakrishnan, Prof. Mohammad Alizadeh
- **Research Intern, IBM India Research Lab** Summer 2017
with *Mohit Jain, Prof. Pratyush Kumar, Prof. Shwetak Patel* Bengaluru, India

Patents

- **Multi User Interaction with Audio Devices using Speech and Gestures**
Mohit Jain, Pratyush Kumar, **Anup Agarwal** [Granted, US10928917B2]
- **Exercise Monitoring and Coaching using Audio-only Devices**
Mohit Jain, Pratyush Kumar, **Anup Agarwal** [Granted, US20200114206A1]

Professional Service

- Reviewer, IEEE/ACM Transactions on Networking: 2022, 2023
- External Review Committee, USENIX ATC 2024

Teaching

- **Teaching Assistant**, Carnegie Mellon University
15-857. Analytical Performance Modeling & Design of Computer Systems Fall 2023
- **Teaching Assistant**, Carnegie Mellon University
15-440/640. Distributed systems Spring 2022

Initiatives

- **PhD Mentorship Program** 2022–Present
Computer Science Department at CMU
 - Started a new mentoring program for the department, where pods of PhD students learn from each other.
 - Manage and organize events for boosting participation.

Technical proficiency

C/C++, Python.
Familiar with: Rust, Java, Spark/Hadoop, Linux networking stack, SQL.