

Deepak Gouda

✉ deepakgouda@gatech.edu in deepakgouda 🌐 deepakgouda.github.io

Education

Doctor of Philosophy (PhD)

Computer Science, GPA 4.0/4.0

Georgia Institute of Technology

August 2022 - July 2027 (Expected)

Bachelor of Technology

Mathematics and Computing, GPA 8.80/10.0

Indian Institute of Technology, Guwahati

July 2016 - July 2020

Experience

• Netflix

Research Intern, Advisor - Anant Shah

Netflix Open Connect CDN

May - December, 2026

- Designed and built a near-real time ISP network congestion detection framework using TCP RTT and bitrate signals to flag congestion across millions of client-server pairs and localize it to network segments
- Developed a router cluster level congestion localization pipeline using traceroute data collected from multiple vantage points, addressing path asymmetry to pinpoint specific network links causing latency degradation

• Google

Student Researcher, Advisor - Anees Shaikh

Google Global Infrastructure

June - September, 2025

- Developed the specification for a next-generation route streaming protocol using gRPC and OpenConfig to provide richer, more efficient telemetry data than the industry-standard BMP
- Designed and implemented the reference vendor protocol implementation on KNE, coordinating across internal teams and external vendors to define core requirements

• Internet Initiative Japan

Research Intern, Advisor - Romain Fontugne

IIJ Research Lab

June - July, 2023

- Identified the barriers preventing adoption of safe Internet routing procedures in networks and developed a platform to plan RPKI Certificates (ROAs). Work led to publications in [ACM IMC 2025](#), [TPRC 2024](#)

Selected Publications

- “[Untangling AS Ownership with ASOIF](#)”, Deepak Gouda, Sahil Samantaray, Nandakishore Velu, Cecilia Testart, ACM Internet Measurement Conference (IMC), 2026, *Under revision*.
- “[Prefix2Org: Mapping BGP Prefixes to Organizations](#)”, Deepak Gouda, Alberto Dainotti, Cecilia Testart, ACM Internet Measurement Conference (IMC), Madison, US, November, 2025.
- “[ru-RPKI-ready: the Road Left to Full ROA Adoption](#)”, Deepak Gouda, Romain Fontugne, Cecilia Testart, ACM Internet Measurement Conference (IMC), Madison, US, November, 2025.

Selected Projects

- **Quantification of Internet Centralization (Advisor: Vasileios Giotsas, Cloudflare)** [Pulse Fellowship, 2025](#)
 - Investigated the geographic distribution of IPs and traffic to detect regions with high infrastructure concentration prone to connectivity disruptions and single points of failure.
- **Prefix2Org : Mapping BGP Prefixes to Organizations** [ACM IMC 2025](#)
 - Engineered a scalable solution leveraging WHOIS data & RPKI certificates to map BGP prefixes to owners.
 - Dataset can be used to identify targeted attacks on cloud and hosting infrastructure, eliminate false routing attack alerts, and analyze the Internet’s threat landscape at an organizational level.

Achievements and Services

- **Pulse Research Fellow, 2025:** Offered a fellowship of 17,000 USD by Internet Society
- **Shadow Reviewer:** ACM Internet Measurement Conference, 2026
- **Student Travel Grant:** ACM HotNets, 2022, ACM IMC, 2023-2024, 2026
- **Artifact Evaluation Committee:** ACM CoNEXT 2023, 2024, 2026
- **Joint Entrance Examination 2016:** Among top **0.1%** out of 1.2 million students in India

Selected Coursework

Computer Networks

Network Security, Internet Data Science, Securing Internet Infrastructure, Border Gateway Protocol, Resource Public Key Infrastructure

Mathematics

Statistical Analysis, Probability and Random Processes, Linear Algebra

Machine Learning

Deep Learning for Text Data, Machine Learning Theory, Big Data Systems

Technical Skills

Languages

Python, C++, Go, Bash, Postgres, Google BigQuery

Tools/Technologies

PyTorch, KNE, Docker, PKI Infrastructure