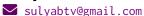
Sulyab Thottungal Valapu



in sulyab

sulyabtv

sulyabtv.github.io

Research Interests

My research revolves around understanding and counteracting Internet centralization and enhancing user privacy, using Internet measurement and protocol design as tools. Recently, I have been studying IPv6 adoption and the privacy risks and opportunities created by the shift to IPv6. Previously, I focused on decentralized reputation mechanisms for blockchain applications.

Experience

2021 -

- ♦ University of Southern California | Graduate Teaching Assistant
 - Teaching Assistant for Fundamentals of Computation (Spring '21, Fall '24), Intro to Algorithms (Fall '21), Intro to Computer Systems (Spring '25, Fall '25), Intro to Computer and Network Security (Spring '22), and Database Systems (Summer '24, Summer '25).

2018 - 2020

- ♦ **Arista Networks** | Software Engineer
 - Developed Network Layer software for Arista EOS®
 - Involved in all stages of software development process including design, development, deployment, debugging and maintenance

Education

2021 -

- ♦ Ph.D., University of Southern California Computer Science.
 - Advised by Prof. John Heidemann
 - Member of Analysis of Network Traffic (ANT) Lab
 - GPA: 3.96/4.0

2014 - 2018

- ♦ **B.Tech., IIIT Allahabad** Information Technology.
 - GPA: 9.37/10. Graduated with Honors.

Publications

Conference Proceedings

- **Sulyab Thottungal Valapu** and John Heidemann. "Towards a Non-Binary View of IPv6 Adoption". In: *Proceedings of the 2025 ACM Internet Measurement Conference*. IMC '25. to appear. New York, NY, USA: Association for Computing Machinery, Oct. 2025.
- Dipsy Desai, Kicho Yu, and **Sulyab Thottungal Valapu**. "Geofeed Adoption and Authentication". In: 2025 IEEE Network Operations and Management Symposium (NOMS). ISSN: 2374-9709. May 2025, pp. 01–08. ODI: 10.1109/NOMS57970.2025.11073659.
- Sulyab Thottungal Valapu, Aritri Saha, Bhaskar Krishnamachari, Vivek Menon, and Ujjwal Guin. "Reward-Based Blockchain Infrastructure for 3D IC Supply Chain Provenance". In: 2025 IEEE International Symposium on Hardware Oriented Security and Trust (HOST). ISSN: 2765-8406. May 2025, pp. 370–380. © DOI: 10.1109/HOST64725.2025.11050057.
- **Sulyab Thottungal Valapu**, Tamoghna Sarkar, Jared Coleman, Anusha Avyukt, Hugo Embrechts, Dimitri Torfs, Michele Minelli, and Bhaskar Krishnamachari. "DARSAN: A Decentralized Review System Suitable for NFT Marketplaces". In: *Blockchain ICBC 2023*. Ed. by Qin Wang, Jun Feng, and Liang-Jie Zhang. Cham: Springer Nature Switzerland, 2023, pp. 3–20. ISBN: 978-3-031-44920-8. **9** DOI: 10.1007/978-3-031-44920-8_1.

Preprints

Alex Sotiropoulos, **Sulyab Thottungal Valapu**, Linus Lei, Jared Coleman, and Bhaskar Krishnamachari. *Crowd-SFT: Crowdsourcing for LLM Alignment*. June 2025. ODI: 10.48550/arXiv.2506.04063. arXiv: 2506.04063[cs].

Technical Reports

Sulyab Thottungal Valapu and Bhaskar Krishnamachari. A Survey of Probabilistic Micropayment Schemes. Tech. rep. IEEE Blockchain Technical Briefs, Mar. 2022.

Skills

Languages ⋄ <u>Proficient:</u> Python • C • C++

Familiar: Rust • WebAssembly • Java

Tools / Technologies 💛 Linux System Programming • Virtualization (Containers, VMs) • Linux Kernel

Networking Stack (incl. netfilter) • OpenWRT

Miscellaneous Experience

Internships

- Designed and implemented a blockchain-based protocol for intelligent autonomous vehicles to exchange messages and purchase services.
- Explored the concept of blockchain branching to tackle scaling limitations

Awards and Achievements

2017 💠 Dean's Merit List, IIIT Allahabad

Activities

2017 \diamond Core Team member of Hack In The North, the largest student-led hackathon in India

backgrounds an introductory research experience.

Selected Coursework

Systems \diamond Advanced Computer Networking

Networked Systems in Cloud Computing

Internet Measurement

Autonomous Cyber-Physical Systems

Applied Cryptography Network Security Operating Systems

Algorithms \diamond Advanced Analysis of Algorithms

Natural Language Processing

Artificial Intelligence