

# VENKAT ARUN

**Contact:** venkatar@mit.edu

**Webpage:** people.csail.mit.edu/venkatar

## EDUCATION

---

### Massachusetts Institute of Technology

*2019-Present*

Ph.D. Student in Dept. of EECS

Advisors: Hari Balakrishnan and Mohammad Alizadeh

### Massachusetts Institute of Technology

*2017-2019*

Master of Science, Dept. of EECS (February 2019)

Advisors: Hari Balakrishnan and Mohammad Alizadeh

### Indian Institute of Technology Guwahati

*2013-2017*

B.Tech. in Computer Science & Engineering

GPA: 9.83/10 (Highest among students graduating that year at IIT Guwahati)

## PUBLICATIONS

---

#### 1. Starvation in End-to-End Congestion Control

**Venkat Arun**, Mohammad Alizadeh, Hari Balakrishnan  
ACM SIGCOMM 2022

*Best Student Paper Award*

<https://dl.acm.org/doi/10.1145/3544216.3544223>

#### 2. Formally Verifying Congestion Control Performance

**Venkat Arun**, Mina Arashloo, Ahmed Saeed, Mohammad Alizadeh, Hari Balakrishnan  
ACM SIGCOMM 2021

<https://dl.acm.org/doi/10.1145/3452296.3472912>

#### 3. Copa: Practical Delay-Based Congestion Control for the Internet

**Venkat Arun**, Hari Balakrishnan  
USENIX NSDI 2018

*Being used in production at Facebook*

<https://web.mit.edu/copa/>

#### 4. RFocus: Practical Beamforming for Small Devices

**Venkat Arun**, Hari Balakrishnan  
USENIX NSDI 2020

<https://people.csail.mit.edu/venkatar/rfocus.html>

#### 5. Finding Safety in Numbers with Secure Allegation Escrows

**Venkat Arun**, Aniket Kate, Deepak Garg, Peter Druschel, Bobby Bhattacharjee  
NDSS Symposium 2020

<https://arxiv.org/abs/1810.10123>

#### 6. Language-Directed Hardware Design for Network Performance Monitoring

Srinivas Narayana, Anirudh Sivaraman, Vikram Nathan, Prateesh Goyal, **Venkat Arun**, Mohammad Alizadeh, Vimalkumar Jeyakumar, and Changhoon Kim  
ACM SIGCOMM 2017

*Best Paper Award*

<https://web.mit.edu/marple/>

#### 7. Privid: Practical, Privacy-Preserving Video Analytics Queries

Frank Cangialosi, Neil Agarwal, **Venkat Arun**, Junchen Jiang, Srinivas Narayana, Anand Sarwate, Ravi Ne-travali

USENIX NSDI 2022

<https://arxiv.org/pdf/2106.12083.pdf>

8. **Throughput-Fairness Tradeoffs in Mobility Platforms**

Arjun Balasingam, Karthik Gopalakrishnan, Radhika Mittal, **Venkat Arun**, Ahmed Saeed, Mohammad Alizadeh, Hamsa Balakrishnan, Hari Balakrishnan

ACM MobiSys 2021

<https://people.csail.mit.edu/arjunvb/pubs/mobius-mobisys21-paper.pdf>

9. **Enabling High Quality Real-Time Communications with Adaptive Frame-Rate**

Zili Meng, Tingfeng Wang, Yixin Shen, Bo Wang, Mingwei Xu, Rui Han, Honghao Liu, **Venkat Arun**, Hongxin Hu, Xue Wei

USENIX NSDI 2023

## PAST EXPERIENCE

---

**Intern, Facebook inc.**

*Fall 2020*

Experimented with and helped improve WAN congestion control at Facebook.

**Intern, Max Planck Institute for Software Systems**

*Summer 2016*

*Profs. Deepak Garg, Peter Druschel, and Krishna Gummadi*

Designed a cryptographically secure allegation escrow (SAE), the first such design to our knowledge

**Intern, Massachusetts Institute of Technology**

*Summer 2015*

*Prof. Hari Balakrishnan*

Developed Copa, a new general purpose congestion control algorithm for the wide-internet

## HONORS AND AWARDS

- 
- ACM SIGCOMM Best Student Paper Award, 2022
  - ACM SIGCOMM Best Paper Award, 2017
  - Jacobs Presidential Fellowship, 2017 (MIT)
  - President of India Gold Medal, 2017 (IIT Guwahati)
  - Institute Merit Scholarship, 2015 and 2016 (IIT Guwahati)
  - KVPY Government of India Scholarship, 2013