

Prateesh Goyal

Curriculum vitae

G-918, 32 Vassar Street
02139 Cambridge
USA

+1 (617) 852 0446
g.pratish@gmail.com

Education

- 2018–present **Ph.D. Candidate in Computer Science**, *Massachusetts Institute of Technology*.
Advisors – Hari Balakrishnan and Mohammad Alizadeh
- 2016–2018 **S.M. in Computer Science**, *Massachusetts Institute of Technology*.
Advisors – Hari Balakrishnan and Mohammad Alizadeh
- 2012–2016 **B.Tech. in Computer Science with Minor in Statistics**, *IIT Bombay*.
GPA – 9.81/10, highest among graduating students in CS

Papers

Preprints

- **Elasticity Detection: A Building Block for Internet Congestion Control**, Prateesh Goyal, Akshay Narayan, Frank Cangialosi, Srinivas Narayana, Mohammad Alizadeh, and Hari Balakrishnan.
<https://arxiv.org/pdf/1802.08730.pdf>
- **SWP: Microsecond Network SLOs Without Priorities**, Kevin Zhao, Prateesh Goyal, Mohammad Alizadeh, and Thomas E. Anderson.
<https://arxiv.org/pdf/2103.01314.pdf>

Publications

- **Backpressure Flow Control**, Prateesh Goyal, Preey Shah, Kevin Zhao, Georgios Nikolaidis, Mohammad Alizadeh, and Thomas E. Anderson.
USENIX NSDI 2022 (To appear)
- **Site-to-Site Internet Traffic Control**, Frank Cangialosi, Akshay Narayan, Prateesh Goyal, Radhika Mittal, Mohammad Alizadeh, Hari Balakrishnan.
EuroSys 2021
- **Annulus: A Dual Congestion Control Loop for Datacenter and WAN Traffic Aggregates**, Ahmed Saeed, Varun Gupta, Prateesh Goyal, Milad Sharif, Rong Pan, Mostafa Ammar, Ellen Zegura, Keon Jang, Mohammad Alizadeh, Abdul Kabbani, and Amin Vahdat.
ACM SIGCOMM 2020
- **ABC: A Simple Explicit Congestion Controller for Wireless Networks**, Prateesh Goyal, Anup Agarwal, Ravi Netravali, Mohammad Alizadeh, and Hari Balakrishnan.
USENIX NSDI 2020

- **End-to-End Transport for Video QOE Fairness**,
Vikram Nathan, Vibhaalakshmi Sivaraman, Ravichandra Addanki, Mehrdad Khani Shirkoohi, **Prateesh Goyal**, and Mohammad Alizadeh.
ACM SIGCOMM 2019
- **Secure Incentivization for Decentralized Content Delivery**,
Prateesh Goyal, Ravi Netravali, Mohammad Alizadeh, and Hari Balakrishnan.
ACM HotEdge 2019
- **Faster Algorithms for Dynamic Algebraic Queries in Basic RSMs with Constant Treewidth**,
Krishnendu Chatterjee, Amir Kafshdar Goharshady, **Prateesh Goyal**, Rasmus Ibsen-Jensen, and Andreas Pavlogiannis.
ACM TOPLAS 2019
- **Restructuring Endpoint Congestion Control**,
Akshay Narayan, Frank Cangialosi, **Prateesh Goyal**, Srinivas Narayana, Mohammad Alizadeh, and Hari Balakrishnan.
ACM SIGCOMM 2018
- **Rethinking Congestion Control for Cellular Networks**,
Prateesh Goyal, Mohammad Alizadeh, and Hari Balakrishnan.
ACM HotNets 2017
- **The Case for Moving Congestion Control Out of the Datapath**,
Akshay Narayan, Frank Cangialosi, **Prateesh Goyal**, Srinivas Narayana, Mohammad Alizadeh, and Hari Balakrishnan.
ACM HotNets 2017
- **Language-Directed Hardware Design for Network Performance Monitoring**,
Srinivas Narayana, Anirudh Sivaraman, Vikram Nathan, **Prateesh Goyal**, VenkatArun, Mohammad Alizadeh, Vimalkumar Jeyakumar, and Changhoon Kim.
ACM SIGCOMM 2017 (**Best Paper Award**)
- **Faster Algorithms for Algebraic Path Properties in Recursive State Machines with Constant Treewidth**,
Krishnendu Chatterjee, Rasmus Ibsen-Jensen, Andreas Pavlogiannis, and **Prateesh Goyal**.
ACM POPL 2015

Research Internships

- Summer 2020 **Intel, Barefoot Switch Division**, *Mentor – Georgios Nikolaidis*.
Implementing Backpressure Flow Control on Tofino2
- Summer 2015 **ETH Zurich**, *Advisor – Prof. Adrian Perrig*.
Detecting egregious flows in the Internet for improved DDoS resilience
- Summer 2014 **IST Austria**, *Advisor – Prof. Krishnendu Chatterjee*.
Faster algorithms for reachability and shortest paths on low tree-width graphs

Teaching Experience

- 2020 **Teaching Assistant, Computer Networks, MIT.**
- 2015 **Teaching Assistant, Computer Programming and Utilization, IIT Bombay.**
- 2014 **Teaching Assistant, Modern Physics, IIT Bombay.**

Awards

- 2017 **ACM SIGCOMM Best Paper Award.**
- 2016 **Institute Silver Medal and Jayati Deshmukh Memorial Gold Medal, for securing highest GPA among graduating students in Computer Science at IIT Bombay.**
- 2013-16 **Institute Academic Award, awarded 4 times for academic excellence, by IIT Bombay.**
- 2012 **All India Rank 53, in IIT-JEE among 500,000 candidates.**
- 2011 **Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship, awarded by the Government of India.**
- 2008 **National Talent Search Examination (NTSE) Scholarship, awarded by NCERT.**