

SANGEETHA ABDU JYOTHI
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EDUCATION

University of Illinois, Urbana-Champaign

Ph.D., Computer Science 2013 - 2019
Advisor: P. Brighten Godfrey

University of Pennsylvania

Master of Science, Telecommunications and Networking 2010 - 2012
Advisor: Roch Guerin

National Institute of Technology, Calicut, India

Bachelor of Technology, Electronics and Communication Engineering 2006 - 2010

WORK EXPERIENCE

University of California, Irvine

Assistant Professor, Department of Computer Science Jul 2020 - Present

VMware Research, Palo Alto

Affiliated Researcher Sep 2020 - Present
Postdoctoral Researcher Sep 2019 - Jun 2020

Microsoft, Redmond

Research Collaborator with Microsoft Research and Cloud & Information Services Lab (CISL) Oct 2015 - May 2016

Microsoft Research, Redmond

Research Intern. Mentor: Ishai Menache May 2015 - Aug 2015

Google, Mountain View

Software Engineering Intern with Platforms Networking Team. May 2014 - Aug 2014

SELECTED HONORS AND AWARDS

- Invited to attend the Heidelberg Laureate Forum 2019
- Invited to the Rising Stars in EECS Workshop at MIT 2018
- Facebook Graduate Fellowship (1 of 13 students selected worldwide) 2017 - 2019
- Mavis Future Faculty Fellowship awarded by the UIUC College of Engineering 2017 - 2018
- Gold Medal for first rank in Bachelors at the National Institute of Technology, Calicut 2010
- NTSE scholarship, NCERT, Government of India 2004 - 2010
(1 of 1000 students selected from nearly a million applicants nationwide)

PUBLICATIONS

- Building Scalable and Flexible Cluster Managers Using Declarative Programming
Lalith Suresh, Joao Loff, Faria Kalim, **Sangeetha Abdu Jyothi**, Nina Narodytska, Leonid Ryzhyk, Sahan Gamage, Brian Oki, Pranshu Jain, Michael Gasch
[OSDI'20] 14th USENIX Symposium on Operating Systems Design and Implementation, 2020
- Spineless Data Centers
Vipul Harsh, **Sangeetha Abdu Jyothi**, Brighten Godfrey
[HotNets'20] 19th ACM Workshop on Hot Topics in Networks
- Towards An Application Objective-Aware Network Interface
Sangeetha Abdu Jyothi*, Sayed Hadi Hashemi*, Roy H. Campbell, Brighten Godfrey
[HotCloud'20] 12th USENIX Workshop on Hot Topics in Cloud Computing, 2020

- TicTac: Accelerating Distributed Deep Learning with Communication Scheduling
Sayed Hadi Hashemi*, **Sangeetha Abdu Jyothi***, Roy H. Campbell (* = co-primary authors)
[MLSys'19] The Conference on Systems and Machine Learning, 2019
- Is Advance Knowledge of Flow Sizes a Plausible Assumption?
Vojislav Dukic, **Sangeetha Abdu Jyothi**, Bojan Karlas, Muhsen Owaida, Ce Zhang, Ankit Singla
[NSDI'19] The 16th USENIX Symposium on Networked Systems Design and Implementation, 2019
- On The Importance of Execution Ordering in Graph-Based Distributed Machine Learning Systems
Sayed Hadi Hashemi, **Sangeetha Abdu Jyothi**, Roy H. Campbell
[MLSys'18] The Conference on Systems and Machine Learning, 2018
- Morpheus: Towards Automated SLOs for Enterprise Clusters
Sangeetha Abdu Jyothi, Carlo Curino, Ishai Menache, Shravan Matthur Narayanamurthy, Alexey Tumanov, Jonathan Yaniv, Ruslan Mavlyutov, Inigo Goiri, Subru Krishnan, Janardhan Kulkarni, Sriram Rao
[OSDI'16] 12th USENIX Symposium on Operating Systems Design and Implementation, 2016
- Measuring and Understanding Throughput of Network Topologies
Sangeetha Abdu Jyothi, Ankit Singla, P. Brighten Godfrey, Alexandra Kolla
[SC'16] ACM/IEEE International Conference for High Performance Computing, Networking, Storage and Analysis, 2016
- Towards a Flexible Data Center Fabric with Source Routing
Sangeetha Abdu Jyothi, Mo Dong, P. Brighten Godfrey
[SOSR'15] ACM Symposium on SDN Research, 2015
- Measuring Throughput of Data Center Network Topologies
Sangeetha Abdu Jyothi, Ankit Singla, P. Brighten Godfrey and Alexandra Kolla
[SIGMETRICS '14] 2014 ACM international conference on Measurement and modeling of computer systems (Short paper)
- Towards a secure and verifiable future Internet
Limin Jia, Chen Chen, **Sangeetha Abdu Jyothi**, Wenchao Zhou, Suyog Mapara and Boon Thau Loo
Off the Beaten Track: Underrepresented Problems for Programming Language Researchers Workshop co-located with POPL, 2012.

Technical Reports

- Caramel: Accelerating Decentralized Distributed Deep Learning with Computation Scheduling
Sayed Hadi Hashemi*, **Sangeetha Abdu Jyothi***, Brighten Godfrey, Roy H. Campbell (* = co-primary)
[arXiv'20] Preprint, arXiv, 2020, arxiv.org/abs/2004.14020
- Expander Datacenters: From Theory to Practice
Vipul Harsh, **Sangeetha Abdu Jyothi**, Inderdeep Singh, Brighten Godfrey
Technical report, 2018. arxiv.org/abs/1811.00212
- cISP: A Speed-of-Light Internet Service Provider
Debopam Bhattacharjee, **Sangeetha Abdu Jyothi**, Ilker Nadi Bozkurt, Muhammad Tirmazi, Waqar Aqeel, Anthony Aguirre, Balakrishnan Chandrasekaran, P. Brighten Godfrey, Gregory P. Laughlin, Bruce M. Maggs, Ankit Singla
Technical report, 2018. arxiv.org/abs/1809.10897
- Measuring and Understanding Throughput of Network Topologies
Sangeetha Abdu Jyothi, Ankit Singla, P. Brighten Godfrey, Alexandra Kolla
Technical report, 2014. arxiv.org/abs/1402.2531

TEACHING EXPERIENCE

University of Illinois, Urbana-Champaign

CS 538: Advanced Computer Networks (Teaching Assistant)

Spring 2018

University of Pennsylvania

TCOM 504: Telecommunications lab (Teaching Assistant)	Spring 2012
TCOM 502: Advanced Networking Protocols (Teaching Assistant)	Spring 2012
TCOM 500: Introduction to Networks and Protocols (Teaching Assistant)	Fall 2011

STUDENTS

Advisees

Graduate

Sagar Patel (Ph.D. student, UCI) Sep 2020 - Present

Mentored

Graduate

Vipul Harsh (M.S. UIUC → Ph.D. UIUC) Jan 2017 - Aug 2019

Vojislav Dukic (Ph.D student, ETH Zurich) Oct 2016 - Jul 2018

Undergraduate

Ruiyang Chen (B.S. UIUC → M.S. UIUC) May 2018 - Present

Bryant Hong Zhao (B.S. UIUC) May 2018 - Aug 2018

Shekar Brahma (B.S. UIUC → M.S. UIUC) Jun 2016 - May 2017

SERVICE

• Program Committee Member

- * SIGCOMM 2020
- * USENIX ATC 2021, 2020
- * CoNEXT 2020
- * NetAI Workshop @ SIGCOMM 2020
- * Posters/Demos @ SIGCOMM 2020

• Reviewer

- * Transactions on Computer Systems 2019
- * IEEE/ACM Transactions on Networking 2020, 2018, 2017, 2015

• External Reviewer: European Conference on Parallel and Distributed Computing (Euro-Par) 2016

• Student representative in the CS Fellowships, Admissions, and Assistantships Committee, UIUC 2016-2017

INVITED TALKS

DNN Training Acceleration through Better Communication-Computation Overlap

UCI CS Seminar Series Oct 2020

Invited Talk at ML for Computer Architecture and Systems Workshop at ISCA Jun 2020

Automated Resource Management in Large-Scale Networked Systems

VMware Research Apr 2019

University of Toronto Mar 2019

University of British Columbia, Vancouver Mar 2019

Max Planck Institute for Software Systems, Germany Mar 2019

University of Southern California Feb 2019

University of California, Irvine Feb 2019

University of Minnesota, Twin Cities Feb 2019

University of Wisconsin, Madison Nov 2018

Morpheus: Towards Automated SLOs for Enterprise Clusters

University of British Columbia Jan 2018

Simon Fraser University Jan 2018

Facebook Fellows Research Summit at Facebook Headquarters, Menlo Park WAND: WAN As A Network of Data Centers	Sep 2017
OSDI 2016, Savannah, Georgia Morpheus: Towards Automated SLOs for Enterprise Clusters	Nov 2016
SC 2016, Salt Lake City, Utah Measuring and Understanding Throughput of Network Topologies	Nov 2016
SOSR 2015, Santa Clara, California Towards a Flexible Data Center Fabric with Source Routing	Jun 2015

ACTIVITIES

• Selected to participate in the NSF NeTS Early Career Workshop	Aug 2019
• Invited to attend the NSF workshop on programmable networks, New York City	Oct 2018
• Invited to the Women in Research event at Facebook, Menlo Park	Feb 2017
• Received CRA Women's Scholarship to attend the Grad Cohort Workshop, San Diego	Apr 2016
• Attended the weSTEM conference for graduate women organized by GradSWE, UIUC	Apr 2014
• CS Graduate Student Ambassador, UIUC	2014-2018
• Member of GradSWE and Women in CS (WCS) at UIUC	2013-2019