

Virag Shah

Postdoctoral Researcher
Microsoft Research - Inria Joint Centre
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EDUCATION

The University of Texas at Austin Ph.D. in Electrical and Computer Engineering Advisor: Prof. Gustavo de Veciana	2015
Indian Institute of Science (IISc), Bangalore Master of Engineering in Telecommunications Advisor: Prof. Neelesh B. Mehta	2009
Mumbai University Bachelor of Engineering in Electronics	2007

RESEARCH INTERESTS

- System optimization and algorithm design for scalable cloud computing systems
- Active matching algorithms for two-sided markets
- Applied queueing theory

RESEARCH EXPERIENCE

Microsoft Research - Inria Joint Centre <i>Postdoctoral Researcher</i> Hosts: Drs. Laurent Massoulié, Marc Lelarge, and Milan Vojnović	Palaiseau, France Jan 2016 – present
The University of Texas at Austin <i>Simons Postdoctoral Fellow</i> Host: Prof. François Baccelli	Austin, TX Fall 2015
The University of Texas at Austin <i>MCD Fellow, Graduate Research Assistant</i> Advisor: Prof. Gustavo de Veciana	Austin, TX Aug 2010 – Jul 2015
Alcatel Lucent Bell Labs <i>Research Intern</i> Mentors: Dr. Murali Kodialam and Dr. T. V. Lakshman	Crawford Hill, NJ Summer 2013
Indian Institute of Technology, Bombay <i>Research Fellow</i> Mentors: Prof. D. Manjunath and Prof. Bikash K. Dey	Mumbai, Maharashtra Nov 2009 – Jul 2010
Indian Institute of Science, Bangalore, <i>Graduate Researcher</i> Advisor: Prof. Neelesh B. Mehta	Bengaluru, Karnataka Aug 2007 – Jul 2009

AWARDS

- **Best Paper Award, IEEE INFOCOM 2014** at Toronto, Canada. One of two papers selected (tied) from the 1650 papers submitted, and 313 papers accepted to the conference.
- **MCD Fellowship** at The University of Texas at Austin, 2010-11. Awarded to about top 1% applicants at the graduate school.
- **Best Paper Award, National Conf. on Communications 2010** at IIT Madras, India in communications track. 250 papers submitted, and 105 accepted to conference with 48 in communications track.

JOURNAL PUBLICATIONS

- **V. Shah**, G. de Veciana, and G. Kesidis “A stable approach for routing queries in unstructured P2P networks,” *IEEE/ACM Trans. on Networking (ToN)*, Oct. 2016.
- **V. Shah** and G. de Veciana, “Impact of fairness and heterogeneity on delays in large-scale content delivery networks,” *Queueing Systems (QUESTA)*, Aug. 2016.
- **V. Shah** and G. de Veciana, “Asymptotic independence of servers’ utilization in queueing systems with limited resource pooling,” *Queueing Systems (QUESTA)*, Jun. 2016.
- **V. Shah** and G. de Veciana, “High performance centralized content delivery infrastructure: models and asymptotics,” *IEEE/ACM Trans. on Networking (ToN)*, Oct. 2015.
- **V. Shah**, B. K. Dey, and D. Manjunath, “Network flows for functions,” *IEEE J. on Selected Areas in Comm.* (JSAC) Special Issue on In-Network Computation, Mar. 2013.
- **V. Shah**, N. B. Mehta, and R. Yim, “Optimal timer based selection schemes,” *IEEE Trans. on Comm.* (TCOM), Jun. 2010.
- **V. Shah**, N. B. Mehta, and R. Yim, “Splitting algorithms for fast relay selection: Generalizations, analysis, and a unified view,” *IEEE Trans. on Wireless Comm.* (TWC), Apr. 2010.
- **V. Shah**, N. B. Mehta, and R. Yim, “The relay selection and transmission tradeoff in cooperative communication systems,” *IEEE Trans. on Wireless Comm.* (TWC), Aug. 2010.

PEER-REVIEWED CONFERENCE PUBLICATIONS

- **V. Shah** and G. de Veciana “Impact of fairness and heterogeneity on delays in large-scale content delivery networks,” in ACM SIGMETRICS, Jun. 2015.
- **V. Shah** and G. de Veciana “Performance evaluation and asymptotics for content delivery networks,” in IEEE INFOCOM, Apr. 2014.
- **V. Shah**, G. de Veciana, and G. Kesidis, “Learning to route queries in unstructured P2P networks: Achieving throughput optimality subject to query resolution constraints,” in IEEE INFOCOM, Mar. 2012.
- **V. Shah**, B. K. Dey, and D. Manjunath, “Network flows for functions,” in IEEE International Symposium of Information Theory (ISIT), Aug. 2011.
- **V. Shah**, B. K. Dey, and D. Manjunath, “Efficient flow allocation algorithms for in-network function computation,” in IEEE GLOBECOM, Dec. 2011.
- **V. Shah**, N. B. Mehta, and R. Yim, “A complete characterization of an optimal timer based selection scheme,” in IEEE International Conference on Communications (ICC), May 2010.
- A. S. Teertha, N. B. Mehta, **V. Shah**, “On optimal timer-based distributed selection for rate-adaptive multi-user diversity systems,” National Conference on Communications (NCC), India, Jan. 2010.
- **V. Shah**, N. B. Mehta, and R. Yim, “Analysis, insights and generalization of a fast decentralized relay selection mechanism,” in IEEE International Conference on Communications (ICC), Jun. 2009.
- **V. Shah**, N. B. Mehta, and R. Yim, “Relay selection and data transmission throughput tradeoff in cooperative systems,” in IEEE GLOBECOM, Dec. 2009.

PUBLICATIONS IN THE WORKS

- T. Bonald, C. Comte, **V. Shah**, G. de Veciana, “Poly-symmetry in processor-sharing networks,” submitted.
- **V. Shah**, A. Bouillard, F. Baccelli, “Leveraging coding and data dissemination in cloud clusters.”
- **V. Shah**, Lennart Gulikers, Laurent Massoulie, Marc Lelarge, Milan Vojnovic, “Active matching algorithms for two-sided markets with limited feedback.”

TEACHING EXPERIENCE

Probability and Stochastic Processes

Fall 2013

Teaching Assistant, The University of Texas at Austin

Instructor: Prof. Gustavo de Veciana

PROFESSIONAL SERVICE

Publicity Co-chair, ACM Mobihoc 2017

Co-organizer, Simons Seminar Series for Fall 2015, UT Austin

Reviewer at journals *IEEE/ACM Trans. on Networking (ToN)*, *Queueing Systems (QUESTA)* and *IEEE J.*

on Selected Areas in Comm. (JSAC), and at several conferences such as International Teletraffic Congress (ITC), IEEE International Symposium on Information Theory (ISIT), WiOpt, etc.

REFERENCES

Prof. François Baccelli
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