ABISHEK SANKARARAMAN

Interests Machine Learning, Multi-Agent Systems, Wireless Networks, Distributed Algorithms

Education

The University of Texas at Austin
Ph.D. in Electrical and Computer Engineering Sep. 2013 - Sep 2019

- Thesis: Spatial Stochastic Models for Network Analysis
- Advisor: François Baccelli

Indian Institute of Technology, Madras
B.Tech and M.Tech in Electrical Engineering, Minor in Mathematics
GPA: 9.23/10 Aug 2008 - May 2013

Work Experience

University of California, Berkeley Berkeley,CA
Postdoctoral Researcher, Advisor: Venkat Anantharam Sep 2019 - Present

Simons Center for Network Mathematics Austin, TX
Graduate Research Assistant. Advisor: François Baccelli Jan 2014-Present

Huawei Research Labs Santa Clara, CA
Data Science Intern. Manager: Hui Zang May - Aug, 2015

Research

Machine Learning

Social Learning in Multi-Agent Multi-Armed Bandit Problem
A. Sankararaman, Ayalvadi Ganesh and Sanjay Shakkottai
ACM SIGMETRICS 2020

ComHapDet: A Spatial Community Detection Algorithm for Haplotype Assembly
A. Sankararaman, Haris Vikalo and François Baccelli
BMC Genomics, 2020 (To Appear). Extended Abstract in ACM CNB-MAC 2019.

Community Detection on Euclidean Random Graphs
A.Sankararaman, Emmanuel Abbe and François Baccelli
ACM-SIAM Symposium on Discrete Algorithms (SODA), 2018.
Minor Revision at IMA Information and Inference,
Extended Abstract in Allerton, 2017.

The Gossiping Insert-Eliminate Algorithm for Multi Agent Multi Armed Bandits
Ronshee Chawla*, A. Sankararaman*, Ayalvadi Ganesh and Sanjay Shakkottai
Under Submission to AISTATS 2020 * Equal Contribution

Applied Mathematics

Interference Queuing Networks on Grids
A. Sankararaman, François Baccelli and Sergey Foss
Annals of Applied Probability, October 2019, Vol. 29, No. 5, 2929-2987.

Wireless Networks

Spatial Birth-Death Wireless Networks
A.Sankararaman and François Baccelli
IEEE Transactions on Information Theory, June 2017, 63 (6), 3964-3982.
Extended Abstract in Allerton 2016.

Performance-Oriented Association in Large Cellular Networks with Technology Diversity
A.Sankararaman, Jeong woo Cho and François Baccelli
International Teletraffic Congress (ITC), 2016.

CSMA k-SIC: A class of distributed MAC protocols and their performance evaluation
A.Sankararaman and François Baccelli
IEEE Conference on Computer Communications (INFOCOM), 2015.

Teaching and Mentorship

Teaching Assistant, *Advanced Probability - Inference and Learning* — Spring 2018
Teaching Assistant, *Probability and Stochastic Processes (Graduate)* — Fall 2018
Duties include holding office hours, setting homework and exam problems.

Undergraduate Student Mentor - *Mixing Times for Random Walks on Groups* — Spring 2018
Research supervisor for an undergraduate student project in the Mathematics Department

Leadership

- WNCG Student Leadership Award — 2018.

Talks

- *Interference Queuing Networks on Grids*
  - Talk at INFORMS Applied Probability Society, Brisbane, Australia. — Jul 2019
  - Talk at UNC-Chapel Hill Probability Seminar, Chapel Hill, NC. — Feb 2019
  - Talk at Austin-TAMU Probability Seminar, Austin, TX. — May 2018
  - Talk at Heriot-Watt University, Edinburgh UK — Feb 2018

- *Community Detection on Euclidean Random Graphs*
  - Talk at MIT Research Laboratory of Electronics, Cambridge MA — Dec 2018
  - Talk at University of Massachusetts, Amherst, MA — Dec 2018
  - Talk at Indian Institute of Technology Madras, Chennai — Jan 2018
  - Talk at ACM-SIAM SODA Conference, New Orleans, LA — Jan 2018
  - Talk at The University of Texas at Austin — May 2017

- *Spatial Birth Death Process on the Continuum*
  - Talk at Indian Institute of Technology Madras, Chennai — Jan 2017
  - Talk at Princeton University — Nov 2016
  - Talk at Allerton Conference on Communication Control and Computing — Oct 2016
  - Talk at INRIA - Ecole Normale Supérieure, Paris — Sep 2016

- *Technology Diversity - A Framework for Base Station Association in Large Cellular Networks*
  - Talk at 28th, International Teletraffic Congress (ITC-28), Würzburg, Germany — Sep 2016

- *CSMA k-SIC: A Class of MAC Protocols*
  - Talk at IEEE INFOCOM, Hong Kong — May 2015

Professional Services

- Reviewer for Journal of Applied Probability (JAP), — 2019-2020
- Organizer for Random Structures Seminar at UT Austin Math dept. — 2017-2019
- Reviewer for IEEE ISIT (International Symposium on Information Theory) — 2019
- Reviewer for Queueing Systems Journal — 2019
- Reviewer for ACM-SIAM SODA (Symposium on Discrete Algorithms) — 2019
- Reviewer for IEEE FOCS (Foundations of Computer Science) — 2018
- Reviewer for SpaSWIN (Spatial Stochastic Models for Wireless Networks) — 2018
- Reviewer for Performance Evaluation — 2017
- Reviewer for IEEE Transactions on Information Theory — 2016-2019
- Reviewer for IEEE Transactions on Wireless Communications — 2015-2019

References

François Baccelli
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Department of ECE, The University of Texas at Austin, Austin, TX, USA.
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