

Manjesh Kumar Hanawal, Assistant Professor, IEOR, IIT-Bombay

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RESEARCH INTERESTS Communication Systems, Machine Learning, Cybersecurity, and Network Economics

EDUCATION

- **Doctor of Philosophy**, INRIA, Sophia Antipolis & University of Avignon, France
Advisor: Prof. Eitan Altman. Graduated with ‘Honourable mention’ Dec 2009 – Mar 2013
- **Master of Science (Engg)**, Indian Institute of Science, Bangalore, India
Advisor: Prof. Rajesh Sundaresan. GPA (6.3 out of 8). Jan 2007 – Feb 2009
- **Bachelor of Engineering**, National Institute of Technology, Bhopal, India
Project guide: Prof. Jyoti Singhai. Percentage 80% Aug 2000 – Apr 2004

PROFESSIONAL EXPERIENCE

- Assistant Professor, IIT Bombay, Powai, India Jan 2016 – till date
- Postdoctoral Researcher, Boston University, USA Jan 2014 – Dec 2015
- Visiting Research Scholar, University of Arizona, USA Mar 2013 – Dec 2013
- Project Assistant, IISc, Bangalore Feb 2009 – Dec 2009
- Scientist B, CAIR, DRDO, Bangalore Aug 2004 – Jan 2007

AWARDS & HONORS

- Early Career Research (ECR) Award, SERB, Govt. of India
- Young faculty award, IIT Bombay
- INSPIRE faculty fellowship by DST, Government of India.
- Best M.Sc (Engg) thesis from Division of Electrical Sciences, IISc, Bangalore, India.
item Best paper award (honourable mention) at COMSENTS 2018.
- Selected as Bharti-scholar (Airtel scholarship program)

SELECTED PROJECTS

- Study of Performance and Pricing Strategies in Networks (project code: 16DSTINS02)
Sponsoring agency: DST, Govt. of India. Budget: 35 lacs. Duration: 5 years
- Economics of Networks and Queue (project code: 17IFCPAR001)
Sponsoring agency: CEFIPRA (Indo-French collaboration) Budget: 1 Crore, Duration: 3 years
- Applications of Artificial Intelligence for Learning and Optimization in Next Generation Wireless Networks (RD/0119-DST0000-003)
Sponsoring agency: SERB, Govt. of India. Budget: 17 lacs, Duration: 3 years
- Cyber Security and Social Media Analytics (15Deity002)
Sponsoring agency: National Center of Excellence in Technology and Internal Security (NCETIS),
Budget: 20 lacs, Duration: 1 years
- Warranty forecast of vehicular components.
Sponsoring agency:Mercedes-Benz Research and Developments India (MBRDI), Budget: 4 lacs, Duration: 1 year
- Vehicle Breaking Event Clustering.
Sponsoring agency: Mitsubishi Fuso Truck and Bus Company, Japan,
Budget: 5 lacs, Duration: 1 year

STUDENT SUPERVISION: GRADUATE STUDENTS

PhD students

- 1 Arun Verma (2016-2020): Thesis under review. Topic- Machine Learning
- 2 Fehmina Malik (2017-): Topic- Network Economics
- 3 Vinod Khandkar (2018-): Topic- Neutrality Violations in the Internet
- 4 Ayush Maheshwari (2019-): Topic- Graph Embeddings
- 5 Debmita Ghosh (2019-): Topic - Artificial Intelligence for Wireless Networks
- 6 Hitesh Gudwani (2019-): Topic - Age of Information in wireless networks

Masters students: 15 in number on the following topics

Wireless networks, Recommendation Systems, Machine Learning, Video Analytics, and Performance evaluation of communication networks

COURSES TAUGHT	IE712: Selected Applications of Stochastic Models	Jul – Nov 2016
	IE613: Online Machine Learning	Jan – Apr 2017, 2018, 2019,2020
	IE611: Introduction to Stochastic Models	Jul – Nov 2017, 2018, 2019
	IE615: Data Analytics for Operations Research (co-teaching)	Jul – Nov 2017, 2018
	IE608: Markov Decision Processes (co-teaching)	Jan – Apr 2018
	IE621: Probability and Stochastic Models I (co-teaching)	Jul – Nov 2020
	IE605: Engineering Statistics	Jul – Nov 2020
	DS203: Programming Data Sciences (co-teaching)	Jul – Nov 2020

JOURNAL
PUBLICATIONS

1. **M.K. Hanawal** and S.J. Darak, “Multi-Player Bandits: A Trekking Approach,” To appear in *IEEE Transactions on Automatic Control*. Arxiv link: <https://arxiv.org/abs/1809.06040>
2. D. Ghosh, **M.K. Hanawal**, and N. Zlatanov, “Learning to Optimize Energy Efficiency in Energy Harvesting Wireless Sensor Networks,” to appear in *IEEE Wireless Communication Letters*. DOI:10.1109/LWC.2021.3058170
3. F. Malik, **M.K. Hanawal**, Y. Hayel, and J. Nair, “Revenue sharing on the Internet: A case for going soft on neutrality regulations,” to appear in *Performance Evaluation*, Vol. 145, pp. 102152, Jan. 2021
4. F. Malik, **M.K. Hanawal**, and Y. Hayel, “Zero-rating of Content and its Effect on the Quality of Service in the Internet,” *IEEE/ACM Transactions on Networking*, vol. 28, no. 6, pp. 2671-2684, Dec. 2020
5. **M.K. Hanawal**, Y. Hayel, and Q. Zhu, “Effective Utilization of Licensed and Unlicensed Spectrum in Large Scale Ad Hoc Networks,” in *Transaction on Cognitive Communications and Networking*, vol. 6, no. 2, pp. 618-630, June 2020
6. **M.K. Hanawal**, D. N. Nguyen, and M. Krunz, “Cognitive Networks with In-band Full-duplex Radios: Jamming Attacks and Countermeasures,” in *IEEE Transaction on Cognitive Communications and Networking*, vol. 6, no. 1, pp. 296-309, March 2020
7. S. Sawant, R. Kumar, **M.K. Hanawal**, and S. J. Darak “Learning to Coordinate in a Cognitive Radio Network in Presence of Jammers” in *IEEE Transactions on Mobile Computing*, vol. 19, no. 11, pp. 2640-2655, 1 Nov. 2020
8. S. J. Darak and **M.K. Hanawal**
9. R. Kumar , S. J. Darak, **M.K. Hanawal**, and A. Yadav, “Distributed Learning and Coordination in Cognitive Infrastructureless Networks of Unknown Size,” in *IEEE Systems Journal*, vol. 14, no. 2, pp. 2085-2096, June 2020 “Multi-player Multi-armed Bandits for Stable Allocation in Heterogeneous Ad-Hoc Networks” in *IEEE Journal on Selected Areas in Communication*, vol. 37, no. 10, pp. 2350-2363, Oct. 2019
10. R. Kumar, S. J. Darak, **M.K. Hanawal**, A. K. Sharma, and R. K. Tripathi, “Distributed Algorithm for Learning to Coordinate in Infrastructure-Less Network,” *IEEE communications letters* vol. 23, no. 2, pp. 362-365, Feb. 2019
11. M.K. Hanawal, H. Liu, H. Zhu and I. Paschalidis, “Learning Policies for Markov Decision Processes from Data,” *IEEE Transactions on Automatic Control*, vol. 64, no. 6, pp. 2298-2309, June 2019
12. E. Altman, **M.K. Hanawal** and R. Sundaresan, “Generalizing Diagonal Strict Concavity Property for Uniqueness of Nash Equilibria,” *Indian Journal of Pure and Applied Mathematics* , vol. 47, no. 2, pp. 213-228
13. **M.K. Hanawal**, M. J. Abdel-Rahman and M. Krunz, “Joint Adaptation of Frequency Hopping and Transmission Rate for Anti-Jamming Wireless Systems,” *IEEE Transactions on Mobile Computing*, vol. 15, no. 9, pp. 2247-2259, 1 Sept. 2016
14. E. Altman, C. Hasan, **M.K. Hanawal**, R. El-Azouz, S. Shamaï, Laurent Roullet, “Stochastic Geometric Models for Green Networking,” *IEEE Access*, vol. 3, pp. 2465-2474, 2015
15. E. Altman, **M.K. Hanawal** and R. Sundaresan, “Regulation of Off-network Pricing in a Non-neutral Network,” *ACM Transaction on Internet Technologies*, vol. 14 no. 2-3, pp. 11.1-11.21, Oct 2014.

16. **M.K. Hanawal**, E. Altman and F. Baccelli, “Stochastic Geometry based Medium Access Games in Mobile Ad hoc Networks,” *IEEE Journal of Selected Areas in Communications*, Special issue on Economics of Communication Networks and Systems, vol. 30, no. 11, pp. 2146-2157, Dec. 2012
17. **M.K. Hanawal** and R. Sundaresan, “Guessing Revisited: A Large Deviations Approach,” *IEEE Transactions on Information Theory*, vol. 57, no. 1, pp. 70-78, Jan. 2011.
18. **M.K. Hanawal** and R. Sundaresan, “The Shannon Cipher System with a Guessing Wiretapper: General Sources,” *IEEE Transactions on Information Theory*, vol. 57, no. 4, pp. 2503-2516

JOURNALS IN RE-
VIEW/SUBMISSION

1. S. Fatale, K. Bhandari, U. Narula, S. Moharir, and **M. K. Hanawal**, “Regret of Age-of-Information Bandits,”
Arxiv link: <https://arxiv.org/abs/2001.09317>
2. H. Tibrewal, S. Patchala, **M. K. Hanawal**, and S. J. Darak, “Multi-player Bandits for Optimal Assignment with Heterogeneous Rewards,” Arxiv link: <https://arxiv.org/abs/1901.03868v4>

CONFERENCE
PUBLICATIONS

1. A. Sahay, A. Maheshwari, R. Kumar, G. Ramakrishnan, **M.K. Hanawal** and Kavi Arya, “Unsupervised Learning of Explainable Parse Trees for Improved Generalisation,” to appear in The International Conference Neural Networks (IJCNN), July 2021
2. A. Verma, **M.K. Hanawal**, Csaba Szepesvari, and V. Saligrama, “Online Algorithm for Unsupervised Sequential Selection with Contextual Information,” to appear in proceeding of Neural Information Processing Systems (NeurIPS), Vancouver, Canada, Dec 2020
3. A. Verma, **M.K. Hanawal**, and N. Hemachandra, “Thompson Sampling for Unsupervised Sequential Selection” to appear in proceeding of Asian Machine Learning Conference (ACML), Bangkok, Thailand, Nov 2020
4. F. Malik, **M.K. Hanawal**, Y. Hayel, and J. Nair “Revenue sharing on the Internet: A Case for Going Soft on Neutrality Regulations” to appear in proceeding of Intl. Symposium on Computer Performance, Modeling, Measurements and Evaluation (PERFORMANCE), Milano, Italy, Nov 2020
5. D. Ghosh, A. Verma and **M.K. Hanawal**, “Optimal Energy Transfer in Energy Harvesting Wireless Sensor Networks,” to appear in the proceedings of Intl. conference on Signal Processing and Communications (SPCOM).
6. K. Bhandari, S. Fatale, U. Narula, S Moharir and **M.K. Hanawal**, “Age-of-Information Bandits,” to appear in the proceeding of Intl. symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), Volos, Greece, June 2020
7. A. Verma and **M.K. Hanawal**, “Stochastic Network Utility Maximization with Unknown Utilities: A Multi-Armed Bandits Approach,” to appear in Proceedings of the *International Conference on Computer Communication (INFOCOM)*, Beijing, China, April 2020
8. A. Verma, **M.K. Hanawal**, A. Rajkumar, and R. Sankaran, “Censored Semi-Bandits: A Framework for Resource Allocation with Censored Feedback,” in Proceeding of Neural Information Processing Systems (NeurIPS), Vancouver, Canada, Dec 2019
9. A. Verma, **M.K. Hanawal** and R. Vaze, “Distributed Algorithms for Efficient Learning and Coordination in Ad Hoc Networks”, in Proceeding of Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), Avignon, France, June 2019.
10. H. Tibrewal, S. Patchala, **M.K. Hanawal**, and S. Darak “Distributed Learning and Optimal Assignment in Multiplayer Heterogeneous Networks,” in Proceedings of the *International Conference on Computer Communication (INFOCOM)*, Paris, France, April-May 2019
11. A. Verma, **M.K. Hanawal**, C. Szepesvari and V. Saligrama, “Online Algorithm for Unsupervised Sensor Selection,” in Proceedings of Artificial Intelligence and Statistics (AISTATS), Okinawa, Japan, April 2019.

12. A. Maheshwari, A. Goyal, A. Kumar, **M.K. Hanawal** and G. Ramakrishnan, "Representation Learning on Graphs by Integrating Content and Structure Information," in Proceedings of International Conference on Communication Systems and Networks (COMSNETS), Bangalore, India, Jan 2019
13. V. N. Pandit, M. K Datar, **M.K. Hanawal** and S. Moharir, "Pricing in Ride Sharing Platforms: Static vs Dynamic Strategies," to appear in Proceedings of International Conference on Communication Systems and Networks (COMSNETS), Bangalore, India, Jan 2019
14. **M.K. Hanawal**, F. Malik and H. Hayel, "Differential Pricing of Traffic in the Internet," in Proceeding of Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), Shanghai, China May 2018.
15. R. Kumar, A. Yadav, S. J. Darak and **M.K. Hanawal**, "Trekking Based Distributed Algorithm for Opportunistic Spectrum Access in Infrastructure-less Network," in Proceeding of Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), Shanghai, China May 2018.
16. S. Sawant, **M.K. Hanawal**, S. J. Darak and R. Kumar "Distributed Learning Algorithms for Coordination in a Cognitive Network in Presence of Jammers," in Proceeding of Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), Shanghai, China May 2018.
17. V. Kavitha, Salman Memon, **M.K. Hanawal**, E. Altman and Devanand R, "User Response Based Recommendations: A Local Angle Approach," International Conference on Communication Systems and Networks (COMSNETS), Bangalore, India, Jan 2018 (**best paper award honorable mention**) Extended version in *Lecture Notes in Computer Science* volume 11227
18. A. Verma and **M.K. Hanawal**, "Unsupervised Cost Sensitive Predictions with Side Information," International Conference on Data Science and Management of Data (CoDS-COMAD), Goa, India, Jan 2018
19. **M.K. Hanawal**, C. Szepesvari and V. Saligrama, "Unsupervised Sensor Acquisition Problem," in Proceedings of Artificial Intelligence and Statistics (AISTATS), Florida, USA, April 2017.
20. **M.K. Hanawal**, H. Liu, H. Zhu, and I. Ch. Paschalidis, "Learning Parameterized Policies for Markov Decision Processes through Demonstrations," in Proceeding of the *Conference on Decision and Control* (CDC), Las Vegas, CA, USA, December 2016
21. **M.K. Hanawal**, D. N. Nguyen and M. Krunz, "Jamming Attack in In-Band Full Duplex Communication: Detection and Countermeasures", in Proceedings of the *International Conference on Computer Communication* (INFOCOM), San Francisco, CA, USA, April 2016.
22. **M.K. Hanawal**, A. Lesham and V. Saligrama, "Efficient Algorithms for Linear Polyhedral Bandits," in Proceeding of International Conference on Acoustics, Speech and Signal Processing (ICASSP), Shanghai, China, March 2015.
23. **M.K. Hanawal** and V. Saligrama, "Cost Effective Algorithms for Spectral Bandits," Allerton Conference on Communication, Control and Computing. Urbana-Champaign, IL, USA, 2015.
24. **M.K. Hanawal**, Venkatesh Saligrama, Michal Valko and Remi Munos, "Cheap Bandits," in Proceedings of International Conference of Machine Learning (ICML), Lille, France, June 2015.
25. **M.K. Hanawal** and Venkatesh Saligrama, "Efficient Detection and Localization in Graph Structured Data," in Proceedings of International Conference on Acoustics, Speech and Signal Processing (ICASSP), Brisbane, Australia, April 2015.
26. **M.K. Hanawal**, M. J. Abdel-Rahman and M. Krunz, "Game Theoretic Anti-jamming Dynamic Frequency Hopping and Rate Adaptation in Wireless Systems," in Proceeding of Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), Hammamet, Tunisia May 2014.
27. **M.K. Hanawal** and E. Altman, "Network Non-Neutrality through Preferential Signaling," in Proceeding of Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), Tsukuba Science City, Japan, May 2013.
28. S. Hanawal, E. Altman, **M.K. Hanawal** and J. Rojas, " Modeling and Simulation of Mobility of Crowds," in Proceedings of Intl. Conference on Analytical & Stochastic Modelling Techniques & Applications (ASMTA), Ghent, Belgium, June 2013.

29. **M.K. Hanawal**, E. Altman and F. Baccelli, "Stochastic Geometry based Medium Access Games," in Proceedings of the *International Conference on Computer Communication (INFOCOM)*, held at Orlando, Florida, USA, March 2012.
30. **M.K. Hanawal** and E. Altman, "Stochastic Geometry based Jamming Games in Mobile Ad hoc Networks," in Proceedings of the *9th International Conference on Wireless on-demand Networks and Services (WONS)*, held at Courmayeur, Italy, January 2012.
31. **M.K. Hanawal**, E. Altman, R. El-Azouzi and B. Prabu, "Spatio-temporal Control for Dynamic Routing Games," in Proceedings of the *2nd International ICST Conference on Game Theory for Networks (GameNets)*, Shanghai, China, April 2011.
32. E. Altman, J. Rojas, S. Wong, **M.K. Hanawal** and Y. Xu, "Net Neutrality and Quality of Service," *invited paper* in Proceedings of the *2nd International ICST Conference on Game Theory for Networks (GameNets)*, Shanghai, China, April 2011.
33. E. Altman, **M.K. Hanawal** and R. Sundaresan, "Nonneutral Network and the Role of Bargaining Power in Side Payments," *International Conference on Network Control and Optimization (NETCOOP)*, Ghent, Belgium, November 2010.
34. **M.K. Hanawal** and R. Sundaresan, "The Shannon Cipher System with a Guessing Wiretapper: General Sources," in Proceedings of *International Symposium on Information Theory (ISIT)*, Seoul, Korea, June 2009.
35. **M.K. Hanawal** and R. Sundaresan, "Guessing Revisited: A Large Deviations Approach," in Proceedings of *National Conference on Communications (NCC)*, held at IIT Guwahati, India, January 2009.

WORKSHOP/POSTER
PUBLICATIONS

1. V. S. Khandkar and **M. K. Hanawal**, "Challenges in Net Neutrality Violation Detection: A Case Study of Wehe Tool," *International Conference on Communication Systems and Networks (COMSNETS)*, Bangalore, India, Jan 2021
2. A. Singh and **M. K. Hanawal**, "Monitoring COVID Hotspots Using Telecom Data: Voronoi Tessellations for Marking Buffer Zones," *International Conference on Communication Systems and Networks (COMSNETS)*, Bangalore, India, Jan 2021
3. R. Kumar, S. J. Darak, and **M.K. Hanawal** "Distributed Algorithm for Opportunistic Spectrum Access in Dynamic Ad Hoc Networks," *Workshop on Real-life Modeling in 5G Networks and Beyond - REFRESH*, co-located with *IEEE DCSS*, June 2020
4. A. Verma, **M.K. Hanawal**, and N. Hemachandra "Unsupervised Online Feature Selection For Cost-Sensitive Medical Diagnosis," *Workshop on Networking Humanitarian Technology for Healthcare (NetHealth)*, held in *COMSNETS*, Bangalore, India, Jan 2020
5. A. Maheshwari, A. Goyal, **M.K. Hanawal**, and G. Ramakrishnan "DynGAN: Generative Adversarial Networks for Dynamic Network Embedding," in *workshop on Graph Representation Learning*, held in conjunction with *NeurIPS*, Vancouver, Canada, Dec 2019
6. F. Malik and **M. K. Hanawal**, "Revenue Sharing Between Service Providers in the Internet: A Moral Hazard Approach," *International Conference on Communication Systems and Networks (COMSNETS)*, Bangalore, India, Jan 2019
7. **M.K. Hanawal** and S. J. Darak, "Distributed Learning in Ad Hoc Networks with Unknown Number of Players," in *workshop on AI in Networks (WAIN)*, held in conjunction with *Performance*, Toulouse, France, Dec. 2018
8. **M.K. Hanawal**, Y. Hayel and Q. Zhu, "Throughput Maximization of Large-Scale Secondary Networks over Licensed and Unlicensed Spectra," in *workshop on Resource Allocation, Cooperation and Competition in Wireless Networks (RAWNET)*, Paris, France, May 2017
9. **M.K. Hanawal**, E. Altman and R. Sundaresan, "A Game Theoretic Analysis of Collusions in Nonneutral networks," presented at *W-PIN workshop*, held in conjunction with *SIGMETRICS*, London, UK, June 2012. Appeared in *Performance Evaluation Review (PER)*
10. E. Altman, **M.K. Hanawal**, R. El-Azouzi and S. Shamaï, "Tradeoffs in Green Cellular Networks," presented at *GreenMetrics workshop*, held in conjunction with *SIGMETRICS*, San Jose, USA, June 2011. Appeared in *Performance Evaluation Review (PER)*

BOOK CHAPTER

1. S. Memon, V. Kavitha, **M.K. Hanawal**, E. Altman, and R. Devanand, "User Response Based Recommendations," in *Lecture Notes in Computer Science* (LNCS), Springer-Verlag, vol. 11227

PATENTS

1. FairNet : Measurement setup for Detection Net neutrality Violations. Indian patent, application no. 202021048922.
2. Masking Host Identity on Internet: Encrypted TLS/SSL Handshake. Indian patent, application no. 202021055538.

TECHNICAL REPORTS (UNPUBLISHED)

- **M.K. Hanawal** and R. Sundaresan, "Randomised Attacks on Passwords," Technical Report TR-PME-2010-11. Available online at http://www.pal.ece.iisc.ernet.in/PAM/docs/techreports/tech_rep10/TR-PME-2010-11.pdf.
- **M.K. Hanawal** and R. Sundaresan, "Guessing and compression subject to distortion," Technical Report TR-PME-2010-12. Available online at http://www.pal.ece.iisc.ernet.in/PAM/docs/techreports/tech_rep10/TR-PME-2010-12.pdf.

TALKS AND TUTORIALS

- Talk on "Online Algorithms for Cost-sensitive Unsupervised Learning" at INRIA, Lille, France, June 2019
- Tutorial on "Introduction to Machine Learning" at the ORSAI conference, held at IIT Bombay, Dec. 2019
- Talk on "Differential Pricing in the Net Neutrality Debate" at LIA, University of Avignon, May 2017
- Talk on "Differential Pricing in the Net Neutrality Debate" at LAAS, CNRA, Toulouse, France. May 2017
- Talk on "Online Learning with Partial Information" at JDA OptSum 2016, at Mumbai
- Talk on "Online Learning with Partial Information" at Mercedes Benz R & D Center India (MBRDI), Bangalore, 2016
- Talk on "Cheap Bandits", at Research Laboratory of Electronics, MIT, Boston, USA, Dec 2015
- Talk on "Medium Access Games in Mobile Ad hoc Networks," IBM Thomas J. Watson Research Center, New York, USA Sep 2013
- Tutorial on Net Neutrality at Value Tools, Cargese, Corsica, France. Oct 2012
- Presentation on "Stochastic Geometry based Problems in Green Networking and Medium Access Control" at Télécom ParisTech, Paris, France. Dec 2011
- Presentation on "Tradeoffs in Green Networking" at INRIA-Alcatel meeting at INRIA, Rocquencourt, Paris, France. June 2011
- Presentation on "Price of Collusion in Nonneutral Networks" at TREC, INRIA, Paris, France. May 2011

PROFESSIONAL SERVICES

Papers of Conferences Reviewed

1. International Conference of Computer Communications (INFOCOM) as TPC
2. International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOPT)
3. Conference on Decision and Control
4. Internal Conference on Machine Learning (ICML)
5. Neural Information Processing Systems (NeurIPS)

Papers of Journal Reviewed

1. IEEE/ACM Transaction on Networking (ToN)
2. IEEE Transaction on Mobile Computing (TMC)
3. IEEE Transaction on Automatic Control (TAC)
4. IEEE Transaction on Cognitive Communications and Networking (TCCN)
5. IEEE Transaction on Wireless Communication (TWC)
6. IEEE Wireless Communication Letters (WCL)
7. IEEE Journal on Selected Areas in Communications (JSAC)

TECHNICAL EVENT
ORGANIZATIONS

- **Organizer of IEOR Day (annual event)**

- Year 2017: <http://www.ieor.iitb.ac.in/ieorday17/> (Sponsorship amount 4 lacs)
- Year 2018: <http://www.ieor.iitb.ac.in/ieorday18/> (sponsorship amount 6 lacs)
- Year 2019: <http://www.ieor.iitb.ac.in/ieorday/> (sponsorship amount 11 lacs)
- CEP course on Naval Operational Analysis (duration: 16 weeks)
 - In year 2019, 2020 and 2021 (to start in Feb.)
- IRCC, IITB sponsored workshop on Machine Intelligence and Data Science (MInDS)
- Co-Chair of Machine Intelligence in Networked Data and Systems (MINDS) workshop at COM-SNETS 2021.

SPORTS

Marathons/half marathons completed

1. Paris marathon 2011
2. Nice-Cannes marathon 2012
3. Mumbai marathon 2012, 2016, 2017, 2018, 2020
4. LongBeach half marathon, USA 2013
5. IIT bombay half marathon, 2018, 2019

Cricket: Played for

1. Dept. of ECE NIT Bhopal, 2004
2. CAIR, DRDO Bangalore, 2006
3. Dept. of ECE IISc, Bangalore, 2009
4. IIT Bombay Faculty and Staff Cricket Tournament, 2019

PERSONAL
DETAILS

- Date of birth: 25th May 1982
- Marital status: Married
- Language: Kannada (mother tongue), Hindi, English (fluent) and Telugu (working knowledge)
- Children: one