

# Sanmay Das

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## Education

- 2001–2006    **Massachusetts Institute of Technology, Cambridge, MA**  
Ph.D. in Computer Science, June 2006  
Dissertation: Dealers, Insiders and Bandits: Learning and its Effects on Market Outcomes  
Advisors: Profs. Tomaso Poggio and Andrew Lo  
S.M. in Electrical Engineering and Computer Science, June 2003  
Thesis: Intelligent Market-Making in Artificial Financial Markets  
Advisor: Prof. Tomaso Poggio
- 1997–2001    **Harvard College, Cambridge, MA**  
A.B. *magna cum laude* with highest honors in Computer Science  
Honors thesis: Optimal Behavior in Group Environments  
Advisors: Profs. Barbara Grosz and Avi Pfeffer

## Professional Experience

- 2013–present    **Associate Professor**    Washington University in St. Louis, *St. Louis, MO*  
Department of Computer Science and Engineering (granted tenure in 2015)  
Steering Committee Chair, Division of Computational and Data Sciences (2018-)
- 2012–2013    **Associate Professor**    Virginia Tech, *Blacksburg, VA*  
Department of Computer Science  
Member of the Discovery Analytics Center
- 2007–2012    **Assistant Professor**    Rensselaer Polytechnic Institute, *Troy, NY*  
Department of Computer Science  
and the Lally School of Management and Technology (by courtesy, 2010-2012)  
Member of the Data Science Research Center
- 2011–2012    **Visiting Scholar**    Office of the Comptroller of the Currency, *Washington, DC*
- 2006–2007    **Postdoctoral Scholar**    UC San Diego, *La Jolla, CA*  
Department of Computer Science and Engineering.
- 2002–2006    **Research Assistant**    MIT, *Cambridge, MA*  
Center for Biological and Computational Learning and Laboratory for Financial Engineering.
- Summer 2004    **Consultant**    Bessemer Venture Partners, *Larchmont, NY*  
Full-time work with a small team on the development of trading strategies for a new hedge fund.

1999–2001      **Research Assistant**      Harvard University, Cambridge, MA  
Division of Engineering and Applied Sciences.

## Awards and Honors

2018      Distinguished Senior Program Committee Member, IJCAI.  
2017      Department Chair Award for Outstanding Teaching, Computer Science and Engineering, Washington University in St. Louis.  
2015      ACM Recognition of Service Certificate for organizing the inaugural SIGAI CNC in 2015.  
2011      Co-author and advisor on one of two runners-up for the Best Student Paper Award at AAMAS.  
2010      National Science Foundation Early Career Development Award.  
2001      Presidential Fellow, Massachusetts Institute of Technology.  
2001      Thomas T. Hoopes Prize for Excellence in Undergraduate Research, Harvard College.  
2001      Nominated for the Division of Engineering and Applied Sciences Teaching Fellow Award, Harvard University.  
Spring 2001      Committee on Undergraduate Education Certificate of Distinction in Teaching, Computer Science 181, Harvard University.  
Fall 2000      Committee on Undergraduate Education Certificate of Distinction in Teaching, Computer Science 182, Harvard University.

## Funding

2019-2022      PI, National Science Foundation RI Small award (\$459,444) for the project *Efficient and Just Allocation of Scarce Societal Resources, and Applications to Homelessness* (Co-PI: Patrick Fowler)  
2019-2021      PI, National Science Foundation EAGER award under the AI and Society (AI-DCL) program (\$299,996) for the project *Exploratory research on the use of AI at the intersection of homelessness and child maltreatment* (Co-PI: Patrick Fowler)  
2019-2022      PI, National Science Foundation CISE REU Site award (\$379,994) for renewal of the site *Big Data Analytics* (Co-PI: Roman Garnett).  
2019-2021      Co-I, NIH (National Institute of Mental Health) R34 Award (\$708,749) for the project *Leveraging Social Media to Identify and Connect Teens with Eating Disorders to a Mobile Guided Self-Help Mobile Intervention* (PI: Patricia Cavazos-Rehg, Co-PI: Denise Wilfley, Co-Is: Ellen Fitzsimmons-Craft, Richard Gruzca, Craig Barr Taylor)  
2019-2020      Co-PI, Mozilla Foundation Responsible Computer Science Challenge Award (\$149,833) (PI: Ron Cytron, Co-PIs: Sandra Mateucci, Marion Neumann, William Siever)  
2018-2020      PI, Computer Science & Engineering Department Seed Grant (\$75,000) (Co-PI: Roman Garnett)  
2018-2019      Co-PI, Washington University Institute for Public Health Precision Public Health Award (\$49,972) for the project *Designing data-driven homelessness prevention: A precision public health approach* (PI: Patrick Fowler, Co-PI: Peter Hovmand).

- 2018-2023 Member of the Administrative Core Scientific Learning Collaborative, NIH (NICHD) *Center for Innovation in Child Maltreatment Policy, Research, and Training* (Total award \$6,496,050; PI Melissa Jonson-Reid, with a large team).
- 2015-2019 PI, National Science Foundation RI Small award (\$429,600) for the project *Modeling Platform Competition: A Multi-Agent Systems Approach*.
- 2016-2019 PI, National Science Foundation CISE REU Site award (\$359,111) for the new site *Big Data Analytics* (Co-PI: Roman Garnett).
- 2012-2014 Co-PI, Intelligence Advanced Research Projects Activity (IARPA) Contract (\$238,192) for the project *Network Identification in Large Semantic Databases Using Incomplete Information* (PI: Mark Goldberg, co-PIs Malik Magdon-Ismael and William Wallace).
- 2011-2017 Co-PI, National Science Foundation CDI Type II award (\$1.77 million total, \$1.51 million to RPI) for the project *Cyber Enabled Discovery System for Advanced Multidisciplinary Study of Humanitarian Logistics for Disaster Response* (PI: Jose-Holguin Veras, co-PIs Malik Magdon-Ismael and John Mitchell, in collaboration with Tricia Wachtendorf at the University of Delaware).
- 2010-2016 PI, National Science Foundation (NSF) Early Career Development (CAREER) award (\$500,000) for the project *The Dynamics of Collective Intelligence*.
- 2009-2013 PI, US-Israel Binational Science Foundation (BSF) grant (\$104,000) with Dr. David Sarne (Bar-Ilan University) as co-PI for the project *Equilibria in Shopping-Agent Mediated Marketplaces*.
- 2009-2012 PI, National Science Foundation CCF Award (\$544,000 total, \$210,000 to RPI) for the project *Correlation Mining and its Applications in Test Cost Reduction, Yield Enhancement, and Performance Calibration in Analog/RF Circuits* (in collaboration with Yiorgos Makris at Yale University / University of Texas at Dallas) (note: managed this fund from 2010-2012; transferred from original awardee Petros Drineas).

## Service to the Profession

- Program Co-Chair 16th International Conference on Autonomous Agents and Multiagent Systems (AA-MAS 2017)
- Associate Editor *ACM Transactions on Economics and Computation* (August 2018–)  
*Journal of Artificial Intelligence Research* (May 2019–)  
*Artificial Intelligence Review* (Fall 2014–Fall 2016)  
*AI Matters* (newsletter of SIGAI) (July 2014–)
- Chair ACM Special Interest Group on Artificial Intelligence (SIGAI): July 2019–
- Vice Chair ACM SIGAI: July 2013–June 2019.
- Member of the Board of Directors International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS): 2018-2024.
- Conference Chair First ACM SIGAI Career Network Conference (CNC 2015).
- Program Co-Chair First Conference on Auctions, Market Mechanisms and Their Applications (AMMA 2009).
- General Co-Chair Second Conference on Auctions, Market Mechanisms and Their Applications (AMMA 2011).
- Sister Track Chair 24th International Joint Conference on Artificial Intelligence (IJCAI 2015).

- Workshops Chair 12th ACM Conference on Electronic Commerce (ACM EC 2011).
- Sponsorships Chair 12th International Conference on Autonomous Agents and Multi-Agent Systems (AA-MAS 2013)
- Program committees AAI Conference on Artificial Intelligence (AAAI): 2012 (Senior PC), 2013 (Senior PC), 2014 (Senior PC), 2015, 2016 (Senior PC), 2018 (Area Chair), 2019 (Senior PC of Main Track and AI for Social Impact Track), 2020 (Area Chair)  
 Conference on AI, Ethics, and Society (AIES), 2019  
 International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS): 2012 (Senior PC), 2014 (PC), 2015 (PC), 2018 (Senior PC), 2019 (Senior PC)  
 ACM Conference on Electronic Commerce / Economics and Computation (EC): 2012, 2013, 2014, 2016, 2018 (Senior PC), 2019  
 International Joint Conference on Artificial Intelligence (IJCAI): 2011 (Senior PC), 2013 (Senior PC), 2016 (Senior PC), 2018 (Senior PC), 2019 (Senior PC)  
 Workshop on the Economics of Networks, Systems and Computation (NetEcon): 2017  
 International Conference on Machine Learning (ICML): 2012, 2016  
 European Conference on Artificial Intelligence (ECAI): 2014  
 Neural Information Processing Systems (NeurIPS): 2012 (Reviewer)  
 IEEE International Conference on Data Mining (ICDM): 2008, 2009, 2010, 2012  
 Conference on Auctions, Market Mechanisms, and Their Applications (AMMA): 2011  
 EC Workshop on Social Computing and User Generated Content: 2014  
 NIPS Workshop on Computational Social Science and the Wisdom of Crowds: 2010  
 Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD): 2010  
 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD): 2009  
 Conference on Intelligent Data Engineering and Automated Learning (IDEAL): 2008  
 SIAM International Conference on Data Mining (SDM): 2008
- Steering committee The Conferences on Auctions, Market Mechanisms, and their Applications (AMMA).
- Doctoral Consortium Mentor AAMAS 2011: mentor to Manish Jain (USC).  
 AAMAS 2015: mentor to Elaine Wah (U. Michigan)  
 IJCAI 2018: mentor to Bryan Wilder (USC)  
 AAMAS 2019: mentor to Bo Li (Stony Brook)
- Proposal reviewing Review panelist for the US National Science Foundation for several disciplinary, interdisciplinary and graduate fellowship and training programs; proposal reviewer for the Israel Science Foundation, US-Israel Binational Science Foundation, Natural Sciences and Engineering Research Council of Canada, and the National Endowment for the Humanities.
- Other reviewing Textbook and book proposal reviewer for Cambridge University Press.
- Journal reviewing Refereeing for many journals, including *Proceedings of the National Academy of Sciences*, *Journal of Artificial Intelligence Research*, *Artificial Intelligence*, *Journal of Political Economy*, *Operations Research*, *ACM Transactions on Economics and Computation*, *ACM Transactions on Internet Technology*, *ACM Transactions on Networking*, *Data Mining and Knowledge Discovery*, *ACM Computing Surveys*, *IEEE Transactions on Knowledge and Data Engineering*, *Computational Intelligence*, *Quantitative Finance*, *Mathematical Finance*, *Physica A*.
- Selected University Service**
- Steering Committee Chair Division of Computational and Data Sciences, Washington University. 2017–. Led the planning and proposal for a new Ph.D. granting division and program.
- Strategic Planning Committee Member School of Engineering and Applied Sciences, Washington Univer-

sity. Led the “Data Sciences for Humanity” whitepaper (2016-17).

Steering Committee Member McKelvey Hall (new CSE and Data Sciences building) Planning Committee (2017-);

Faculty Search Committees Washington University CSE (2015-16, 2017-18); Virginia Tech CS (2012-13); Washington University Political Science (Methods) (2017-18).

PhD Administrative Committee member Brown School, Washington University (2018-19).

Committee Member Danforth Campus Standing Committee on Work/Life Balance, Washington University (2018-).

Committee Member School of Engineering and Applied Sciences Tenure Clock Committee (2018).

## Publications

Authorship in the list below is usually alphabetical, except in the cases of collaborations with others who use ordering by contribution.

## Edited Volumes

- [1] Kate Larson, Michael Winikoff, Sanmay Das, and Edmund H. Durfee, eds. *AAMAS '17: Proceedings of the 16th Conference on Autonomous Agents and MultiAgent Systems*. Sao Paulo, Brazil: International Foundation for Autonomous Agents and Multiagent Systems, 2017.
- [2] Peter Coles, Sanmay Das, Sébastien Lahaie, and Boleslaw K. Szymanski, eds. *Auctions, Market Mechanisms, and Their Applications: Selected Papers From the Second International Conference*. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering. Springer, 2012.
- [3] Sanmay Das, Michael Ostrovsky, David Pennock, and Boleslaw Szymanski, eds. *Auctions, Market Mechanisms and Their Applications: Selected Papers From the First International Conference*. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering. Springer, 2009.

## Journal Articles

- [4] Hao Yan, Ellen E Fitzsimmons-Craft, Micah Goodman, Melissa Krauss, Sanmay Das, and Patricia Cavazos-Rehg. “Automatic detection of eating disorder-related social media posts that could benefit from a mental health intervention”. In: *International Journal of Eating Disorders* (2019). To appear. Published online in advance.
- [5] Patrick J. Fowler, Peter S. Hovmand, Katherine E. Marcal, and Sanmay Das. “Solving homelessness from a complex systems perspective: Insights for prevention responses”. In: *Annual Review of Public Health* 40 (2019), pp. 465–486.
- [6] Sanmay Das, Allen Lavoie, and Malik Magdon-Ismail. “Manipulation Among the Arbiters of Collective Intelligence: How Wikipedia Administrators Mold Public Opinion”. In: *ACM Transactions on the Web* 10.4 (2016), 24:1–24:25.
- [7] Florentin Butaru, Qingqing Chen, Brian J. Clark, Sanmay Das, Andrew W. Lo, and Akhtar R. Siddique. “Risk and Risk Management in the Credit Card Industry”. In: *Journal of Banking and Finance* 72 (2016), pp. 218–239.
- [8] Rostyslav Korolov, Justin Peabody, Allen Lavoie, Sanmay Das, Malik Magdon-Ismail, and William Wallace. “Predicting Charitable Donations Using Social Media”. In: *Social Network Analysis and Mining* 6.1 (2016), pp. 1–10.

- [9] Yinon Nahum, David Sarne, Sanmay Das, and Onn Shehory. “Two-Sided Search With Experts”. In: *Autonomous Agents and Multi-Agent Systems* 29.3 (2015), pp. 364–401.
- [10] Meenal Chhabra, Sanmay Das, and David Sarne. “Expert-mediated sequential search”. In: *European Journal of Operational Research* 234.3 (2014), pp. 861–873.
- [11] Elliot Anshelevich, Sanmay Das, and Yonatan Naamad. “Anarchy, Stability, and Utopia: Creating Better Matchings”. In: *Autonomous Agents and Multi-Agent Systems* 26.1 (2013), pp. 120–140.
- [12] Sanmay Das and Malik Magdon-Ismael. “A Model for Information Growth in Collective Wisdom Processes”. In: *ACM Transactions on Knowledge Discovery from Data* 6.2 (2012), 6:1–6:10.
- [13] Sahin Cem Geyik, S. Yousaf Shah, Boleslaw K. Szymanski, Sanmay Das, and Petros Zerfos. “Market mechanisms for resource allocation in pervasive sensor applications”. In: *Pervasive and Mobile Computing* 8.3 (2012), pp. 346–357.
- [14] Teruhiko Yoneyama, Sanmay Das, and Mukkai Krishnamoorthy. “A Hybrid Model for Disease Spread and an Application to the SARS Pandemic”. In: *Journal of Artificial Societies and Social Simulation* 15.1 (2012).
- [15] Aditya Sehgal, Sanmay Das, Keith Noto, Milton H. Saier Jr., and Charles Elkan. “Identifying Relevant Data for a Biological Database: Handcrafted Rules Versus Machine Learning”. In: *IEEE/ACM Transactions on Computational Biology and Bioinformatics* 8.3 (2011), pp. 851–857.
- [16] Sanmay Das and John N. Tsitsiklis. “When is it Important to Know You’ve Been Rejected? A Search Problem With Probabilistic Appearance of Offers”. In: *Journal of Economic Behavior and Organization* 74 (2010), pp. 104–122.
- [17] Sanmay Das. “A Learning Market-Maker in the Glosten-Milgrom Model”. In: *Quantitative Finance* 5.2 (Apr. 2005), pp. 169–180.
- [18] Barbara J. Grosz, Sarit Kraus, David Sullivan, and Sanmay Das. “The Influence of Social Norms and Social Consciousness on Intention Reconciliation”. In: *Artificial Intelligence* 142.2 (Nov. 2002), pp. 147–177.

## Refereed Conference Papers

- [19] Hao Yan, Sanmay Das, Allen Lavoie, Sirui Li, and Betsy Sinclair. “The Congressional Classification Challenge: Domain Specificity and Partisan Intensity”. In: *Proceedings of the ACM Conference on Economics and Computation*. 2019, pp. 71–89.
- [20] Zhuoshu Li, Kelsey Lieberman, William Macke, Sofia Carrillo, Chien-Ju Ho, Jason Wellen, and Sanmay Das. “Incorporating Compatible Pairs in Kidney Exchange: A Dynamic Weighted Matching Model”. In: *Proceedings of the ACM Conference on Economics and Computation*. 2019, pp. 349–367.
- [21] Amanda Kube, Sanmay Das, and Patrick J. Fowler. “Allocating Interventions Based on Predicted Outcomes: A Case Study on Homelessness Services”. In: *Proceedings of the AAAI Conference on Artificial Intelligence*. 2019, pp. 622–629.
- [22] Zhuoshu Li and Sanmay Das. “Revenue Enhancement Via Asymmetric Signaling in Interdependent-Value Auctions”. In: *Proceedings of the AAAI Conference on Artificial Intelligence*. 2019, pp. 2093–2100.
- [23] Zhuoshu Li, Neal Gupta, Sanmay Das, and John P. Dickerson. “Equilibrium Behavior in Competing Dynamic Matching Markets”. In: *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*. 2018, pp. 389–395.
- [24] Meenal Chhabra, Sanmay Das, and Ilya Ryzhov. “The Promise and Perils of Myopia in Dynamic Pricing With Censored Information”. In: *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*. 2018, pp. 4994–5001.

- [25] Zhuoshu Li, Zhitang Chen, Pascal Poupart, Sanmay Das, and Yanhui Geng. “Faster Policy Adaptation in Environments with Exogeneity: A State Augmentation Approach”. In: *Proceedings of the 17th Conference on Autonomous Agents and MultiAgent Systems (AAMAS)*. 2018, pp. 1035–1043.
- [26] Mithun Chakraborty, Kai Yee Phoebe Chua, Sanmay Das, and Brendan Juba. “Coordinated Versus Decentralized Exploration In Multi-Agent Multi-Armed Bandits”. In: *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*. 2017, pp. 164–170.
- [27] Mithun Chakraborty and Sanmay Das. “Trading On A Rigged Game: Outcome Manipulation In Prediction Markets”. In: *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*. 2016, pp. 158–164.
- [28] Shamin Kinathil, Scott Sanner, Sanmay Das, and Nicolás Della Penna. “A Symbolic Closed-form Solution to Sequential Market Making with Inventory”. In: *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*. 2016, pp. 3609–3615.
- [29] Zhuoshu Li and Sanmay Das. “An Agent-Based Model of Competition Between Financial Exchanges: Can Frequent Call Mechanisms Drive Trade Away from CDAs?”. In: *Proceedings of the International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS)*. 2016, pp. 50–58.
- [30] Mithun Chakraborty and Sanmay Das. “Market Scoring Rules Act As Opinion Pools For Risk-Averse Agents”. In: *Advances in Neural Information Processing Systems*. Selected for a spotlight presentation. 2015, pp. 2350–2358.
- [31] Sara Moein, Hao Yan, Sanmay Das, Matthew Hall, and Pirooz Eghtesady. “Prediction of Systemic-to-Pulmonary Artery Shunt Surgery Outcomes Using Administrative Data”. In: *IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*. 2015, pp. 737–741.
- [32] Rostyslav Korolov, Justin Peabody, Allen Lavoie, Sanmay Das, Malik Magdon-Ismael, and William Wallace. “Actions Are Louder Than Words in Social Media”. In: *Proceedings of the IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*. 2015, pp. 292–297.
- [33] Sanmay Das, John P. Dickerson, Zhuoshu Li, and Tuomas Sandholm. “Competing Dynamic Matching Markets”. In: *Proceedings of the Conference on Auctions, Market Mechanisms and Their Applications (AMMA)*. 2015.
- [34] Shani Alkoby, David Sarne, and Sanmay Das. “Strategic Free Information Disclosure for Search-Based Information Platforms”. In: *Proceedings of the International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*. 2015, pp. 635–643.
- [35] Mithun Chakraborty, Sanmay Das, and Justin Peabody. “Price Evolution in a Continuous Double Auction Prediction Market With a Scoring-Rule Based Market Maker”. In: *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*. 2015, pp. 835–841.
- [36] Sanmay Das and Zhuoshu Li. “The Role of Common and Private Signals in Two-Sided Matching with Interviews”. In: *Web and Internet Economics (WINE)*. Springer, 2014, pp. 492–497.
- [37] Sanmay Das and Allen Lavoie. “Automated inference of point of view from user interactions in collective intelligence venues”. In: *Proceedings of the International Conference on Machine Learning (ICML)*. 2014, pp. 82–90.
- [38] Sanmay Das and Allen Lavoie. “The Effects of Feedback on Human Behavior in Social Media: An Inverse Reinforcement Learning Model”. In: *Proceedings of the International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*. 2014, pp. 653–660.
- [39] Meenal Chhabra, Sanmay Das, and David Sarne. “Competitive Information Provision in Sequential Search Markets”. In: *Proceedings of the International Conference on Autonomous Agents and Multiagent Systems*. 2014, pp. 565–572.
- [40] Sanmay Das, Allen Lavoie, and Malik Magdon-Ismael. “Manipulation Among the Arbiters of Collective Intelligence: How Wikipedia Administrators Mold Public Opinion”. In: *Proceedings of the ACM Conference on Information and Knowledge Management*. 2013, pp. 1097–1106.

- [41] Elliot Anshelevich, Meenal Chhabra, Sanmay Das, and Matthew Gerrior. "On the Social Welfare of Mechanisms for Repeated Batch Matching". In: *Proceedings of the AAAI Conference on Artificial Intelligence*. 2013, pp. 60–66.
- [42] Mithun Chakraborty, Sanmay Das, Allen Lavoie, Malik Magdon-Ismael, and Yonatan Naamad. "Instructor Rating Markets". In: *Proceedings of the AAAI Conference on Artificial Intelligence*. 2013, pp. 159–165.
- [43] Aseem Brahma, Mithun Chakraborty, Sanmay Das, Allen Lavoie, and Malik Magdon-Ismael. "A Bayesian market maker". In: *Proceedings of the ACM Conference on Electronic Commerce*. 2012, pp. 215–232.
- [44] Yinon Nahum, David Sarne, Sanmay Das, and Onn Shehory. "Two-sided search with experts". In: *Proceedings of the ACM Conference on Electronic Commerce*. 2012, pp. 754–771.
- [45] Meenal Chhabra, Sanmay Das, and Boleslaw K. Szymanski. "Team Formation in Social Networks". In: *Proceedings of the International Symposium on Computer and Information Sciences*. 2012, pp. 291–299.
- [46] Mithun Chakraborty, Sanmay Das, and Malik Magdon-Ismael. "Near-Optimal Target Learning With Stochastic Binary Signals". In: *Proceedings of the Conference on Uncertainty in Artificial Intelligence*. 2011, pp. 69–76.
- [47] Meenal Chhabra and Sanmay Das. "Learning the Demand Curve in Posted-Price Digital Goods Auctions". In: *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*. Nominated for the Best Student Paper Award (one of three nominees). 2011, pp. 63–70.
- [48] Meenal Chhabra, Sanmay Das, and David Sarne. "Expert-Mediated Search". In: *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*. 2011, pp. 415–422.
- [49] Sanmay Das and Malik Magdon-Ismael. "Collective Wisdom: Information Growth in Wikis and Blogs". In: *Proceedings of the ACM Conference on Electronic Commerce*. 2010, pp. 231–240.
- [50] Eric Meisner, Sanmay Das, Volkan Isler, Jeffrey Trinkle, Selma Sabanovic, and Linnda R. Caporael. "Predictive State Representations for Grounding Human-Robot Communication". In: *Proceedings of the IEEE International Conference on Robotics and Automation*. 2010, pp. 178–185.
- [51] Elliot Anshelevich, Sanmay Das, and Yonatan Naamad. "Anarchy, Stability, and Utopia: Creating Better Matchings". In: *Proceedings of the Symposium on Algorithmic Game Theory*. 2009, pp. 159–170.
- [52] Sanmay Das and Malik Magdon-Ismael. "Adapting to a Market Shock: Optimal Sequential Market-Making". In: *Advances in Neural Information Processing Systems*. 2008, pp. 361–368.
- [53] Sanmay Das. "The Effects of Market-Making on Price Dynamics". In: *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*. Estoril, Portugal, May 2008, pp. 887–894.
- [54] Sanmay Das, Milton H. Saier Jr., and Charles Elkan. "Finding Transport Proteins in a General Protein Database". In: *Proceedings of the European Conference on Principles and Practice of Knowledge Discovery in Databases*. Warsaw, Poland, Sept. 2007, pp. 54–66.
- [55] Sanmay Das. "Learning to Trade with Insider Information". In: *Proceedings of the International Conference on Electronic Commerce*. Minneapolis, MN, Aug. 2007, pp. 169–176.
- [56] Sanmay Das and Emir Kamenica. "Two-Sided Bandits and the Dating Market". In: *Proceedings of the International Joint Conference on Artificial Intelligence*. Edinburgh, UK, Aug. 2005, pp. 947–952.
- [57] Sanmay Das, Barbara Grosz, and Avi Pfeffer. "Learning and Decision-Making for Intention Reconciliation". In: *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*. Bologna, Italy, July 2002, pp. 1121–1128.
- [58] Sanmay Das. "Filters, Wrappers, and a Boosting-Based Hybrid for Feature Selection". In: *Proceedings of the International Conference on Machine Learning*. Williamstown, MA, June 2001, pp. 74–81.



## Newsletter and Magazine Articles

- [59] Sven Koenig, Sanmay Das, Rosemary Paradis, Eric Eaton, Yolanda Gil, Katherine Guo, Bojun Huang, Albert Jiang, Benjamin Kuipers, Nicholas Mattei, Amy McGovern, Larry Medsker, Todd Neller, Plamen Petrov, Michael Rovatsos, and David Stork. "ACM SIGAI Activity Report". In: *AI Matters* 3.3 (2017), pp. 7–11.
- [60] Sanmay Das. "Report on the Career Network Conference". In: *AI Matters* 1.3 (2015), pp. 6–7.
- [61] Elliot Anshelevich and Sanmay Das. "Matching, Cardinal Utility, and Social Welfare". In: *ACM SIGECom Exchanges* 9.1 (2010).
- [62] Sanmay Das and Michael Ostrovsky. "Conference Announcement: The Conference on Auctions, Market Mechanisms, and Their Applications (AMMA)". In: *ACM SIGECom Exchanges* 7.3 (2008).

## Other Papers

- [63] Sanmay Das and Edmund H. Durfee. "Hot Trends in Autonomous Agents and Multiagent Systems". In: *AAAI What's Hot Talks*. 2018.
- [64] Sanmay Das, Emir Kamenica, and Renee Mirka. "Reducing Congestion Through Information Design". In: *Proceedings of the 55th Allerton Conference on Communication, Control, and Computing*. Invited paper. 2017, pp. 1279–1284.
- [65] Hao Yan, Allen Lavoie, and Sanmay Das. "The Perils of Classifying Political Orientation From Text". In: *IJCAI Workshop on Linked Democracy*. 2017, pp. 38–50.
- [66] Yuan Gao, Sanmay Das, and Patrick J. Fowler. "Homelessness Service Provision: A Data Science Perspective". In: *AAAI Workshop on AI and Operations Research for Social Good*. 2017, pp. 20–25.
- [67] Sanmay Das. "Multiagent Systems Modeling". In: *Optimization Challenges in Complex, Networked and Risky Systems*. Ed. by A. Gupta, A. Capponi, J. C. Smith, and H. J. Greenberg. Tutorials in Operations Research. INFORMS, 2016, pp. 207–225.
- [68] Antonio A. Ginart, Sanmay Das, Jenine K. Harris, Roger Wong, Hao Yan, Melissa Krauss, and Patricia A. Cavazos-Rehg. "Drugs or Dancing? Using Real-Time Machine Learning to Classify Streamed "Dabbing" Homograph Tweets". In: *Proceedings of the Workshop on Health Data Science: Creation, Analysis and Interpretation, In Conjunction with IEEE ICHI*. 2016, pp. 10–13.
- [69] Sanmay Das and Emir Kamenica. "Representations of Information Structures". In: *Proceedings of the 53rd Allerton Conference on Communication, Control, and Computing*. Invited paper. 2015, pp. 737–743.
- [70] Boleslaw K. Szymanski, S. Yousaf Shah, Sahin Cem Geyik, Sanmay Das, Meenal Chhabra, and Petros Zerfos. "Market mechanisms for Value of Information driven resource allocation in Sensor Networks". In: *Workshop Proceedings of the Ninth Annual IEEE International Conference on Pervasive Computing and Communications (PerCom Workshops)*. 2011, pp. 20–25.
- [71] Sanmay Das. "On Agent-Based Modeling of Complex Systems: Learning and Bounded Rationality". Working paper. 2007.

## Theses

- [72] Sanmay Das. "Dealers, Insiders and Bandits: Learning and its Effects on Market Outcomes". Ph.D. Massachusetts Institute of Technology, 2006.
- [73] Sanmay Das. "Intelligent Market-Making in Artificial Financial Markets". S.M. Massachusetts Institute of Technology, 2003.

[74] Sanmay Das. “Optimal Behavior in Group Environments”. A.B. Harvard University, 2001.

## **Selected Invited Talks**

- 2006 Santa Fe Institute; University of Massachusetts, Amherst (Dept. of Computer Science); Stanford University (Graduate School of Business, Operations, Information & Technology Group); Harvard University, Artificial Intelligence Research Group.
- 2007 Stony Brook University (Department of Computer Science); Rensselaer Polytechnic Institute (Department of Computer Science); University of Washington (Department of Computer Science and Engineering).
- 2010 University of Maryland, College Park (Department of Computer Science); Harvard University (Economics and Computer Science Group); Yahoo! Research New York; University of Texas at Austin (Learning Agents Group).
- 2011 University of Maryland, Baltimore County (Department of Computer Science); University of Michigan (Information School); George Washington University (Department of Computer Science).
- 2012 Stevens Institute of Technology (Department of Computer Science); Virginia Tech (Department of Computer Science); AT&T Research; George Mason University (Department of Computational Social Science).
- 2013 University of Illinois at Chicago (Department of Information and Decision Sciences); University of Maryland, College Park (Smith School of Business, Department of Decision, Operations and Information Technologies); Washington University in St. Louis (Department of Computer Science and Engineering); Microsoft Research Faculty Summit
- 2014 Brown University (Department of Computer Science); Harvard University (Artificial Intelligence Research Group); Massachusetts Institute of Technology (Brains, Minds and Machines Seminar).
- 2015 Bar-Ilan Symposium on the Foundations of Artificial Intelligence (keynote).
- 2016 IUPUI (Department of Computer Science); Becker-Friedman Institute Macro Financial Modeling Summer School; INFORMS Tutorial Series.
- 2017 Becker-Friedman Institute Macro Financial Modeling Summer School.
- 2018 Mastercard Tech Talk; Rensselaer Polytechnic Institute (Department of Computer Science); Becker-Friedman Institute Macro Financial Modeling Summer School; University of Southern California (Center for Artificial Intelligence in Society).
- 2019 Stevens Institute of Technology (Computer Science); Rutgers University (Computer Science); International Monetary Fund (Economics Training Program); Johns Hopkins University (Sawyer Seminar); Prepare.ai Annual Conference; NSF Workshop on Computing, Data Science, and Access to Justice.

## **Advising**

### **Ph.D. Students**

- Meenal Chhabra (Ph.D. in Computer Science from Virginia Tech (transferred from RPI), Spring 2014). Thesis title “Studies in the Algorithmic Pricing of Information Goods and Services”. First position: Square, Inc.
- Allen Lavoie (Ph.D. in Computer Science from WUSTL (transferred from Virginia Tech and RPI), Spring 2016). Thesis title “Automatically Characterizing Product and Process Incentives in Collective Intelligence”. First position: Google.

- Mithun Chakraborty (Ph.D. in Computer Science from WUSTL (transferred from Virginia Tech and RPI), Spring 2017). Thesis title “On the Aggregation of Subjective Inputs from Multiple Sources”. First position: Postdoc, National University of Singapore.
- Zhuoshu Li (Ph.D. in Computer Science from WUSTL, Fall 2018). Thesis title “Computational Explorations of Information and Mechanism Design in Markets”. First position: Google.
- Hao Yan (Ph.D. in Computer Science from WUSTL, Fall 2019). Thesis title “Measuring Partisanship, Ideology, Locality, and Centrality in Political Corpora with Machine Learning”. First position: Facebook.
- Amanda Kube (Ph.D. student in CSE/DCDS at WUSTL)
- Andrew Estornell (Ph.D. student in CSE at WUSTL, co-advised with Yevgeniy Vorobeychik)
- Zehao Dong (Ph.D. student in CSE at WUSTL, co-advised with Chien-Ju Ho)

#### **M.S. Students (Including a Research Component)**

- Aseem Brahma (M.S. in Computer Science, 2010 (RPI)). First position: Qualcomm, Inc.
- Jeffrey Gaston (M.S. in Computer Science, 2012 (RPI)). First position: Vecna Technologies
- Justin Peabody (M.S. in CSE, 2015 (WUSTL)). First position: Boeing.
- Dina Elreedy (M.S. in CSE, 2016; co-advised with Roman Garnett (WUSTL)).

#### **Undergraduate Research Advisor or Mentor**

- Yonatan Naamad, RPI (→ Ph.D. student at Princeton, now graduated) (Summers of 2008 (co-advised with Elliot Anshelevich) and 2010)
- Matthew Gerrior, RPI (Summer 2010; co-advised with Elliot Anshelevich)
- Andrew Bolin, RPI (Summer 2011)
- Kevin Huang, WUSTL (Summer 2014)
- Megan Shearer, University of Arizona (Summer 2014) → Ph.D. student at Michigan CSE
- Mark Heimann, WUSTL Class of 2015 → Ph.D. student at Michigan CSE
- Xintong (Emily) Wang, WUSTL Class of 2015 → Ph.D. student at Michigan CSE
- Phoebe Chua, Messiah College (Summer 2015; co-advised with Brendan Juba) → Ph.D. student at UC Irvine Informatics
- Lise Ho, Stony Brook U. (Summer 2016)
- Tony Ginart, WUSTL (2016) → Ph.D. student at Stanford EE
- Yuan Gao, WUSTL (2016-2017) → M.S. student at CMU
- Renee Mirka, WUSTL (2016-2017) → Ph.D. student at UCSD Math → Ph.D. student at Cornell CS
- Gwyneth Pearson, WUSTL (2016-2017)
- Gregg Wilcox, WUSTL (Spring 2017)
- Sirui Li, WUSTL (2017-19) → Ph.D. student at MIT IDSS

- Amanda Kube, WUSTL (2017-18) → Ph.D. student at WUSTL CSE/DCDS
- Sofia Carillo, Cornell (Summer 2017)
- Kelsey Lieberman, Truman State (Summer 2018; co-advised with Chien-Ju Ho) → Ph.D. student at Duke CS
- William Macke, Tulsa (Summer 2018; co-advised with Chien-Ju Ho) → Ph.D. student at UT Austin
- Brenda Torteya, WUSTL (Summer 2019)
- Yejin Hwang, Smith College (Summer 2019)
- Tanisha Agrawal, Barnard College (Summer 2019)

#### Ph.D. Committee Member

- Eric Meisner (Ph.D. in Computer Science, RPI, Spring 2009)
- Saeed Salem (Ph.D. in Computer Science, RPI, Summer 2009)
- Mohammad Al-Hasan (Ph.D. in Computer Science, RPI, Summer 2009; **SIGKDD Doctoral Dissertation Award Winner**)
- Andrey Sarayev (Ph.D. in Computer Science, RPI, Fall 2009)
- Bugra Caskurlu (Ph.D. in Computer Science, RPI, Spring 2010)
- Teruhiko Yoneyama (Ph.D. in Multidisciplinary Science, RPI, Spring 2010)
- Jon Purnell (Ph.D. in Computer Science, RPI, Fall 2010)
- Gregory Moore (Ph.D. in Math, RPI, Fall 2010)
- Christos Boutsidis (Ph.D. in Computer Science, RPI, Spring 2011)
- Ameya Hate (Ph.D. in Computer Science, RPI, Spring 2012)
- Sahin Geyik (Ph.D. in Computer Science, RPI, Summer 2012)
- Milos Mladenovic (Ph.D. in Civil Engineering, Virginia Tech, Summer 2014)
- Zhixiang (Eddie) Xu (Ph.D. in CSE, WUSTL, Summer 2014)
- Zheng Chen (Ph.D. in CSE, WUSTL, Spring 2015)
- Vynn Huh (Ph.D. in Biomedical Engineering, WUSTL, Fall 2015)
- Paras Tiwari (Ph.D. in CSE, WUSTL, Fall 2015)
- Wenlin Chen (Ph.D. in CSE, WUSTL, Spring 2016)
- Matt Kusner (Ph.D. in CSE, WUSTL, Summer 2016)
- Robert Utterback (Ph.D. in CSE, WUSTL, Summer 2017)
- Dov Lerman-Sinkoff (Ph.D. in Biomedical Engineering, WUSTL, Spring 2018)
- Elena Labzina (Ph.D. in Political Science, WUSTL, Spring 2018)
- Tzai-Shuen Chen (Ph.D. in Economics, WUSTL, Spring 2018)

- Michelle Ichinco (Ph.D. in CSE, WUSTL, Spring 2018)
- Abby Stylianou (Ph.D. in CSE, WUSTL, Fall 2018)
- Katherine Marcal (Ph.D. in Social Work, WUSTL, Spring 2019)
- Michelle Torres (Ph.D. in Political Science, WUSTL, Spring 2019)
- Gustavo Malkomes (Ph.D. in CSE, WUSTL, Summer 2019)
- Muhan Zhang (Ph.D. student in CSE, WUSTL)
- Xiaoxin Liu (Ph.D. student in CSE, WUSTL)

## Courses Taught

- **Spring 2019 (WUSTL):** CSE 417T: Introduction to Machine Learning. Undergraduate level. Enrollment: 155. Instructor rating: 5.7 / 7 (median 6).
- **June 2018 (Olin Business School, WUSTL):** Immersion Training on Advanced Machine Learning and Text Classification for Business Applications. Two-day hands-on training class for executives affiliated with the Center for Customer Analytics and Big Data (now the Center for Analytics and Business Insights. 23 attendees.
- **Spring 2018 (WUSTL):** CSE 516A: Multi-Agent Systems. Graduate level. Enrollment: 73. Instructor rating: 6.3 / 7 (median 7).
- **Fall 2017 (WUSTL):** CSE 417T: Introduction to Machine Learning. Undergraduate level. Enrollment: 109. Instructor rating: 5.9 / 7 (median 6.5).
- **Spring 2017 (WUSTL):** CSE 516A: Multi-Agent Systems. Graduate level. Enrollment: 71. Instructor rating: 6.7 / 7 (median 7).
- **Fall 2016 (WUSTL):** CSE 417T: Introduction to Machine Learning. Undergraduate level. Enrollment: 141 across two sections (co-taught with Marion Neumann). Instructor rating: 6.0 / 7 (median 6).
- **Spring 2016 (WUSTL):** CSE 516A: Multi-Agent Systems. Graduate level. Enrollment: 86. Instructor rating: 6.3 / 7 (median 6.5).
- **Fall 2015 (WUSTL):** CSE 417A: Introduction to Machine Learning. Undergraduate level. Enrollment: 96. Instructor rating: 6.2 / 7 (median 6).
- **Spring 2015 (WUSTL):** CSE 516A: Multi-Agent Systems. Graduate level. Enrollment: 28. Instructor rating: 6.7 / 7 (median 7).
- **Fall 2014 (WUSTL):** CSE 417A: Introduction to Machine Learning. Undergraduate level. Designed and taught as a new class for the first time. Enrollment: 65. Instructor rating: 5.8 / 7 (median 6).
- **Spring 2014 (WUSTL):** CSE 516A: Multi-Agent Systems. Graduate level. Designed and taught as a new class for the first time. Enrollment: 20 (Graduate) + 20 (Undergraduate). Instructor rating: 5.8 / 7 (median 6).
- **Fall 2013 (WUSTL):** CSE 591: Introduction to Graduate Study in CSE. Graduate level. Led the ongoing class mostly based on prior materials. Enrollment: 17 (Graduate) + 0 (Undergraduate). Instructor rating: 6.3 / 7 (median 6).
- **Spring 2013 (VT):** CS 6804: Learning and Sequential Decision-Making. Graduate level. Designed and taught as a new class for the first time in a lecture/seminar hybrid format. Enrollment: 21 (Total). Instructor rating: 5.9 / 6

- **Fall 2012 (VT):** CS 4804: Introduction to Artificial Intelligence. Undergraduate level. Designed and taught as a new class for the first time, making limited use of prior materials. Enrollment: 31 (Total). Instructor rating: 5.5 / 6
- **Spring 2012 (RPI):** CSCI 2300: Introduction to Algorithms. Undergraduate level. Ongoing class. Enrollment: 76 (Undergraduate). Instructor rating: 4.5 / 5
- **Spring 2012 (RPI):** CSCI 6963/4963: Internet Economics. Both graduate and undergraduate levels. Ongoing class (renamed). Enrollment: 26 (Total). Instructor rating: 4.9 / 5
- **Spring 2011 (RPI):** CSCI 2300: Introduction to Algorithms. Undergraduate level. Ongoing class. Enrollment: 105 (Undergraduate). Instructor rating: 4.2 / 5
- **Spring 2011 (RPI):** CSCI 6963/4963: E-Commerce, Social Networks and Collective Intelligence. Both graduate and undergraduate levels. Ongoing class. Enrollment: 24 (Total). Instructor rating: 4.5 / 5
- **Spring 2010 (RPI):** CSCI 2300: Introduction to Algorithms. Undergraduate level. Ongoing class (renamed). Enrollment: 76 (Undergraduate). Instructor rating: 4.0 / 5
- **Spring 2010 (RPI):** CSCI 6963/4963: E-Commerce, Social Networks and Collective Intelligence. Both graduate and undergraduate levels. Designed and taught as a new class for the first time. Enrollment: 19 (Total). Instructor rating: 4.0 / 5
- **Spring 2009 (RPI):** CSCI 2300: Data Structures and Algorithms. Undergraduate level. Ongoing class. Undergraduate level. Ongoing class. Enrollment: 93 (Undergraduate). Instructor rating: 3.5 / 5
- **Fall 2008 (RPI):** CSCI 6100/4100: Machine Learning. Both graduate and undergraduate levels. Both graduate and undergraduate levels. Ongoing class. Enrollment: 23 (Total). Instructor rating: 4.1 / 5
- **Spring 2008 (RPI):** CSCI 2300: Data Structures and Algorithms. Undergraduate level. Redesigned and taught existing class completely differently, using a new textbook and new materials. Enrollment: 72 (Undergraduate). Instructor rating: 4.0 / 5
- **Fall 2007 (RPI):** CSCI 6100/4100: Machine Learning. Both graduate and undergraduate levels. Re-designed and taught existing class completely differently, using new textbooks and new materials. Enrollment: 10 (Total). Instructor rating: 3.8 / 5

September 12, 2019