Alexander Nikolaev

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RESEARCH INTERESTS

Operations Research, Decision-Making under Uncertainty, Machine Learning, Social Network Analysis, Causal Inference, E-Health, E-Learning

EDUCATION

Ph.D. in Industrial Engineering, University of Illinois at Urbana-Champaign, 2008
M.S. in Industrial Engineering, The Ohio State University, 2003
M.S. in Applied Physics and Mathematics, Moscow Institute of Physics and Technology, 2001
B.S. in Applied Physics and Mathematics, Moscow Institute of Physics and Technology, 1999

PROFESSIONAL POSITIONS AND AFFILIATIONS

Associate Professor, University at Buffalo (SUNY). September 2018 – Present
Docent, University of Jyväskylä, Finland. December 2015 – Present
Assistant Professor, University at Buffalo (SUNY). June 2010 – August 2018
Adjunct Assistant Professor, Northwestern University. September 2009 – June 2010
Intern/Staff Engineer/Consultant, Caterpillar / Belcan, Inc. June 2008 – September 2009

HONORS AND AWARDS

Personal Awards

2018 INFORMS Impact Prize (with Sheldon Jacobson, Laura Albert, Adrian Lee, & Kenneth Fletcher)

2017 University at Buffalo Teaching Innovation Award

> Per the criteria on the UB website, this award recognizes outstanding and widely disseminated achievement in teaching innovation that has a demonstrable effect on enhancing student-learning outcomes.

2017 Nursing Outlook Excellence in Research Award, by "Nursing Outlook" journal

2016 and 2015 U.S. Air Force Summer Faculty Fellowship Program (AF SFFP), sponsored by the Air Force Office of Scientific Research (AFOSR)

Feature Article, July 2016 Issue, in "Socio-Economic Planning Sciences" journal
Finalist, 2013 INFORMS Junior Faculty Paper Competition
Honorary Mention, 2011 Best Paper in "Computational Optimization and Applications" journal

Student Awards

(John Fontecha) 2018 NSF ASME International Mechanical Engineering Congress & EXPO Travel Award
(Alireza Farasat) 2016 University at Buffalo Graduate School's Excellence in Teaching Award
(Alireza Farasat) 2015 INFORMS Annual Meeting Poster Competition Runner-Up Award
(Mohammad Samadi) 2015 ISE Best Poster Award, 2015 NSF ICS Conference Student Travel Award
(Sabrina Casucci) 2013 Healthcare Systems Process Improvement Conference Best Student Paper Award

CITATIONS 1490 total; H-index 20 (per *Google Scholar* data)

PUBLICATIONS (* - Advised student) (Impact Factors reported as in 2020 JCR)

Refereed Journal Articles (J)

1. Courtney J. Burris*, **Alexander Nikolaev**, Himangshu Paul, & Lan Peng, "Create-Rank-Compete Crowdlearning", *Advances in Engineering Education* (*American Society for Engineering Education, IF 1.73*), accepted, August 2022.
2. Laura Albert, **Alexander Nikolaev**, & Sheldon Jacobson, "Homeland Security Research Opportunities", *IISE Transactions* (*Taylor&Francis, IF 2.68*), pp. 1-10, February 2022.
3. John Fontecha*, **Alexander Nikolaev**, Jose Walteros, & Zhenduo Zhu, "Scientists Wanted? A Literature Review on Incentive Programs that Promote Pro-Environmental Consumer Behavior: Energy, Waste, and Water", S*ocio-Economic Planning Sciences (Elsevier, IF 4.1)*, p.101251, January 2022.
4. Siddhartha Nambiar, **Alexander Nikolaev**, & Eduardo Pasiliao, "Triply Stochastic Sequential Assignment Problem with the Uncertainty in Worker Survival", *Optimization Letters (Springer, IF 1.5)*, pp.1-14, October 2021.
5. John Fontecha*, Jose Walteros, & **Alexander Nikolaev**, "Reach Maximization for Social Lotteries", *OMEGA: International Journal of Management Science (Elsevier, IF 7.08*), Omega, 105, p.102496, May 2021.
6. Himangshu Paul*, & **Alexander Nikolaev**, "Fake Review Detection on Online E-Commerce Platforms: a Systematic Literature Review", *Data Mining and Knowledge Discovery (Springer, IF 3.67)*, 35(5), pp. 1830-1881, May 2021.
7. Courtney Burris*, **Alexander Nikolaev**, Shiran Zhong, & Ling Bian, "Network Effects in Influenza Spread: the Impact of Mobility and Socio-Economic Factors", S*ocio-Economic Planning Sciences (Elsevier, IF 4.9)*, 78 (2021): 101081, December 2021.
8. Xin Du, Lei Sun, Wouter Duivesteijn, **Alexander Nikolaev**, & Mykola Pechenizkiy, "Adversarial Balancing-based Representation Learning for Causal Effect Inference with Observational Data", *Data Mining and Knowledge Discovery (Springer, IF 3.67)*, 35, no. 4 (2021): 1713-1738, April 2021.
9. Yuan Zhou*, Ling Bian, **Alexander Nikolaev**, & Li Lin, "Investigating Transmission Dynamics of Influenza in a Public Indoor Venue: An Agent-Based Modeling Approach", *Computers & Industrial Engineering* (*Elsevier, IF: 5.43*), 157, p. 107327, accepted, April 2021.
10. Laura Albert, **Alexander Nikolaev**, Adrian Lee, Kenneth Fletcher, & Sheldon Jacobson, "A Review of Risk-Based Security and Its Impact on TSA PreCheck", *IISE Transactions* (*Taylor&Francis, IF 2.68*), September 2020, 53(6), January 2021. **(Featured in ISE Magazine, Issue of May 2021)**
11. Laiyun Wu*, Jamie Kang, Y. Chung Y, & **Alexander Nikolaev**, "Inferring Origin-Destination Demand and User Preferences in a Multi-modal Travel Environment Using Automated Fare Collection Data", *OMEGA: International Journal of Management Science (Elsevier, IF 7.08)*, 1:102260, May 2020.
12. Alexander Semenov, Alexander Veremyev, **Alexander Nikolaev**, Eduardo Pasiliao, & Vladimir Boginski, "Network-based indices of individual and collective advising impacts in mathematics", *Computational Social Networks (SpringerOpen, IF N/A)*, 7(1), p.1, January 2020.
13. Laiyun Wu*, Jamie Kang, & **Alexander Nikolaev**, "Monitoring Multimodal Travel Environment Using Automated Fare Collection Data: Data Processing and Reliability Analysis", *Journal of Big Data Analytics in Transportation (Springer, IF N/A)*, November 2019.
14. Christopher Diaz, Alexander Nikolaev, Abhinav Perla, Alexander Veremyev, & Eduardo Pasiliao, Robust communication network formation: a decentralized approach. *Computational Social Networks (SpringerOpen, IF N/A)*, 6(13), pp.1-30, November 2019.
15. Sabrina Casucci, Yuan Zhou, Biplap Bhattacharya, Lei Sun, **Alexander Nikolaev**, & Li Lin, "Causal Analysis of the Impact of Homecare Services on Patient Discharge Disposition", *Home Health Care Services Quarterly* (*Taylor&Francis, CI 0.36*), 38(3), pp. 162-181, 2019. DOI: 10.1080/01621424.2019.1617215.

16. Alexander Semenov, Alexander Mantzaris, **Alexander Nikolaev**, Alexander Veremyev, Jari Veijalainen, Vladimir Boginsky, & Eduardo Pasiliao, "Exploring the social media landscape of post-Soviet space through the social networking service VKontakte", *IEEE Access* (*IEEE, IF: 3.37*), pp. 1-13, December 2018.
17. Zulqarnain Haider, **Alexander Nikolaev**, Jee Eun Kang, & Changhyun Kwon, "Inventory Rebalancing through Pricing in Public Bike Systems", *European Journal of Operational Research (Elsevier, IF 5.33)*, 270(1), pp. 103-117, October 2018.
18. Sabrina Casucci*, Li Lin, & **Alexander Nikolaev**, "Modeling the Impact of Care Transition Programs on Patient Outcomes and 30 Day Hospital Readmissions", *Socio-Economic Planning Sciences (Elsevier, IF 4.9)*, 63, 70-79, September 2018.
19. Abhinav Perla*, **Alexander Nikolaev**, & Eduardo Pasiliao, "Workforce Management under Social Link Based Corruption", *OMEGA: International Journal of Management Science (Elsevier, IF 7.08)*, 78, pp. 222-236, July 2018.
20. Sabrina Casucci*, Li Lin, Sharon Hewner, & **Alexander Nikolaev**, "Estimating the Causal Effects of Chronic Disease Combinations on 30-day Hospital Readmissions based on Observational Medicaid Data", *Journal of the American Medical Informatics Association* (*Oxford, IF: 4.50*), 25(6), pp. 670-678, June 2018.
21. Mohammadreza Samadi*, Rakesh Nagi, Alexander Semenov, & **Alexander Nikolaev**, "Seed Activation Scheduling for Influence Maximization in Social Networks", *OMEGA: International Journal of Management Science (Elsevier, IF 7.08)*, 77, pp. 96-114, June 2018.
22. Hernan Caceres, Dongchen Yu*, & **Alexander Nikolaev**, "Evaluating Shortfall Distributions in Periodic Inventory Systems with Stochastic Endogenous Demands and Lead-times", *Annals of Operations Research* (*Springer, IF 4.85*), pp. 1-23, January 2018.
23. Rahul Gopalsamy*, Alexander Semenov, Eduardo Pasiliao, Scott McIntosh, & **Alexander Nikolaev**, "Engagement as a Driver of Growth of Online Health Forums: Observational Study", *Journal of Medical Internet Research (JMIR Publications, IF 5.43)*, DOI:10.2196/jmir.7249, 19(8), August 2017.
24. Aashwinkumar Devari*, **Alexander Nikolaev**, & Qing He, "Crowdsourcing the Last Mile Delivery of Online Orders Exploiting the Social Networks of Retail Store Customers", *Transportation Research: Part E* (*Elsevier, IF 6.88*), 105, pp. 105-122, July 2017.
25. Sung-Heui Bae, Alireza Farasat*, **Alexander Nikolaev**, Jin Young Seo, Kelly Foltz-Ramos, Donna Fabry, Jessica Castner, "Nursing Teams: Behind the Charts", *Journal of Nursing Management (Wiley, IF 3.33)*, 25, pp. 354–365, July 2017.
26. Sushant Khopkar*, & **Alexander Nikolaev**, "Predicting Long-Term Product Ratings Based on Few Early Ratings and User Base Analysis", *Electronic Commerce Research and Applications* (*Elsevier, IF 6.01*), 21, pp. 38-49, February 2017.
27. Mohammadreza Samadi*, **Alexander Nikolaev**, & Rakesh Nagi, "The Temporal Aspects of the Evidence-based Influence Maximization on Social Networks", *Optimization Methods and Software (Taylor&Francis, IF 1.02)*, 32(2), pp. 290-311, February 2017.
28. Lei Sun, & **Alexander Nikolaev**, "Mutual Information Based Matching for Causal Inference with Observational Data", *Journal of Machine Learning Research (Microtome Publishing, IF 3.65),* 17(199), pp. 1-31, September 2016. **(Finalist, 2013 INFORMS Junior Faculty Paper Competition**)
29. Siddhartha Nambiar*, **Alexander Nikolaev**, Melissa Green*, Lora Cavuoto, & Ann Bisantz, "Low-Cost Sensor System Design for In-Home Physical Activity Tracking", *IEEE Translational Engineering in Health and Medicine (IEEE, IF 3.32)*, 4(1), pp. 1-6, December 2016.
30. Alireza Farasat*, Geoff Gross, Rakesh Nagi, & **Alexander Nikolaev**, "Social Network Analysis with Data Fusion", *IEEE Transactions on Computational Social Systems (IEEE, IF: N/A)*, 3(2), pp. 88-99, November 2016.
31. Alireza Farasat*, & **Alexander Nikolaev**, "Social Structure Optimization in Team Formation", *Computers and Operations Research (Elsevier, IF 4.01)*, 74(C), pp. 127-142, October 2016.
32. Anshuman Kumar*, Jamie Kang, Chang Kwon, & **Alexander Nikolaev**, "Inferring OD-Pairs and Utility-Based Travel Preferences of Shared Mobility System Users in a Multi-Modal Environment", *Transportation Research B: Methodology (Elsevier, IF 5.60)*, 91, pp. 270-291, September 2016.
33. Alireza Farasat*, & **Alexander Nikolaev**, "Signed Social Structure Optimization for Shift Assignment in the Nurse Scheduling Problem", S*ocio-Economic Planning Sciences (Elsevier, IF 4.9)*, 56, July 2016. **(Feature Article)**

34. Dinissa Duvanova, **Alexander Nikolaev**, Alexander Nikolsko-Rzhevsky, & Alexander Semenov, "Violent Conflict and Online Segregation: An Analysis of Social Network Communication Across Ukraine's Regions", *Journal of Comparative Economics (Elsevier, IF 2.76)*, 44(1), pp.163-181, February 2016.
35. Mohammadreza Samadi*, **Alexander Nikolaev**, & Rakesh Nagi, "A Subjective Evidence Framework for Influence Maximization in Online Social Networks". *OMEGA: International Journal of Management Science (Elsevier, IF 7.08)*, 59(B), pp. 263-278, March 2016.
36. Raihan Razib*, & **Alexander Nikolaev**, "A Probabilistic Graphical Modeling Method for Inferring Hydraulic Conductivity Maps from Hydraulic Head Maps". *Journal of Hydrologic Engineering (American Society of Civil Engineers, IF 2.06)*, 21(2), pp. 04015058-(1-9), February 2016.
37. Alireza Farasat*, **Alexander Nikolaev**, Sargur Srihari & Rachael Hageman-Blair, "Probabilistic Graphical Models in Modern Social Network Analysis", *Social Network Analysis and Mining (Springer, CI 0.62)*, 5(62), pp.1-18, December 2015.
38. Sung-Heui Bae, **Alexander Nikolaev**, Jin Young Seo, & Jessica Castner, "Health Care Provider Social Network Analysis: A Systematic Review". *Nursing Outlook (Elsevier, IF 3.25)*, 63(5), pp. 566-584, September 2015. **(2017 Nursing Outlook Excellence in Research Award)**
39. **Alexander Nikolaev**, Raihan Razib*, & Ashwin Kucheriya*, "On Efficient Use of Entropy Centrality for Community Detection in Social Networks". *Social Networks (Elsevier, IF 3.41)*, 40, pp. 154-162, January 2015.
40. Michael Stearns, Siddhartha Nambiar*, **Alexander Nikolaev**, Alexander Semenov, Scott McIntosh, "Towards Evaluating and Enhancing the Reach of Online Health Forums as a Treatment of Smoking". *Network Modeling and Analysis in Health Informatics and Bioinformatics (Springer, CI 0.3),* 3(1):1-11, DOI: 10.1007/s13721-014-0069-7, PMCID: PMC4461236, September 2014.
41. Sushant Khopkar*, Rakesh Nagi, **Alexander Nikolaev**, & Vaibhab Bhembre, "Efficient Algorithms for Incremental All Pairs Shortest Paths, Closeness and Betweenness in Social Network Analysis". *Social Network Analysis and Mining (Springer, Ci 0.62)*, 4(1), pp. 1-20, August 2014.
42. Dinissa Duvanova, Alexander Semenov, & **Alexander Nikolaev**, "Do Social Networks Bridge Political Divides? Evidence from Ukrainian Parliamentary Elections". *Post-Soviet Affairs (Taylor&Francis, IF 2.98)*, DOI: 10.1080/1060586X.2014.918453, pp. 1-26, April 2014.
43. Wendy K. Tam Cho, Jason Sauppe, **Alexander Nikolaev**, Sheldon H. Jacobson, & Edward C. Sewell "An Optimization Approach to Matching and Causal Inference". *Statistica Neerlandica (Wiley-Blackwell, IF 1.19)*, 67 (2), pp. 211-226, April 2013.
44. **Alexander Nikolaev**, Sheldon H. Jacobson, Wendy K. Tam Cho, Jason Sauppe, & Edward C. Sewell "Balance Optimization Subset Selection (BOSS): An Alternative Approach to Causal Inference with Observational Data". *Operations Research (Institute for Operations Research and Management Sciences, IF 3.31)*, 61(2), pp. 398-412, November 2012.
45. Sheldon H. Jacobson, **Alexander Nikolaev**, Doug M. King, & Adrian J. Lee "Seed Distributions for the NCAA Men's Basketball Tournament". *OMEGA: International Journal of Management Science (Elsevier, IF 7.08)*, pp. 719-724, December 2011.
46. **Alexander Nikolaev**, Adrian J. Lee, & Sheldon H. Jacobson "Optimal Aviation Security Screening Strategies with Dynamic Passenger Risk Updates". *IEEE Transactions on Intelligent Transportation Systems (Institute of Electrical and Electronics Engineers, IF 6.49)*, September 2011.
47. **Alexander Nikolaev** & Sheldon H. Jacobson "Using Markov Chains to Analyze the Effectiveness of Local Search Algorithms". *Discrete Optimization (Elsevier, IF 1.22)*, pp. 160--173, May 2011.
48. **Alexander Nikolaev**, Sheldon H. Jacobson, Shane N. Hall, & Darrall Henderson "A Framework for Analyzing Sub-Optimal Performance of Local Search Algorithms". *Computational Optimization and Applications (Springer, IF 2.17)*, 49, pp. 407-433, 2011. (**Best 2011 Paper Honorary Mention**)
49. **Alexander Nikolaev** & Sheldon H. Jacobson "Technical Note: Stochastic Sequential Decision-Making with a Random Number of Jobs". *Operations Research (Institute for Operations Research and Management Sciences, IF 3.31)*, pp. 1023--1027, July (3rd Quarter/Summer) 2010.
50. **Alexander Nikolaev**, Matthew J.D. Robbins, & Sheldon H. Jacobson "Evaluating the Impact of Legislation Prohibiting Cell Phone Use While Driving". *Transportation Research A: Policy (Elsevier, IF 5.59)*, pp. 182--193, March 2010.
51. Laura A. McLay, Sheldon H. Jacobson, & **Alexander Nikolaev** "A Sequential Stochastic Passenger Screening Problem for Aviation Security". *IISE Transactions (Taylor&Francis, IF 2.68)*, pp. 575--591, October (4th Quarter/Autumn), 2009.

52. Sheldon H. Jacobson, Adrian J. Lee, & **Alexander Nikolaev** "Designing for Flexibility in Aviation Security Systems". *Journal of Transportation Security (Springer, CI 0.26)*, pp. 1--8, April (2nd Quarter/Spring), 2009.
53. Adrian J. Lee, **Alexander Nikolaev**, & Sheldon H. Jacobson "Protecting Air Transportation: A Survey of Operations Research Applications to Aviation Security". *Journal of Transportation Security (Springer, CI 0.26)*, pp. 160--184, January (1st Quarter/Winter), 2008.
54. **Alexander Nikolaev**, Sheldon H. Jacobson, & Laura A. McLay "A Sequential Stochastic Security System Design Problem for Aviation Security". *Transportation Science (Institute for Operations Research and Management Sciences, IF 4.12)*, vol. 41(2), pp. 182--194, May 2007.

Refereed Conference Papers (C)

1. **Alexander Nikolaev**, Alexander Semenov, & Eduardo Pasiliao, "Sampled Fictitious Play on Networks", *Proceedings of International Conference on Computational Data and Social Networks (CSoNet 2019)*.
2. Christopher Diaz*, **Alexander Nikolaev**, & Eduardo Pasiliao, "A Decentralized Deterministic Information Propagation Model for Robust Communication", *Proceedings of the International Conference on Computational Data and Social Networks (CSoNet 2018)*, December 18-20, 2018, Shanghai, China.
3. Alexander Semenov, Alexander Veremyev, **Alexander Nikolaev**, Eduardo Pasiliao, & Vladimir Boginski, "Ranking Academic Advisors: Analyzing Scientific Advising Impact using MathGenealogy Social Network", *Proceedings of International Conference on Computational Data and Social Networks (CSoNet 2018)*, December 18-20, 2018, Shanghai, China.
4. Alireza Farasat*, **Alexander Nikolaev**, Suzanne Miller, & Rahul Gopalsamy*, "Crowdlearning: Towards Collaborative Problem-Posing at Scale", *Proceedings of the 4th Annual ACM Conference on Learning at Scale*, pp. 221-224, 2017.
5. **Alexander Nikolaev**, Shounak Gore*, & Venu Govindaraju, "Engagement Capacity and Engaging Team Formation for Reach Maximization of Online Social Media Platforms," *Proceedings of the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, pp. 225-234, 2016 **[acceptance rate for Applied Data Science Track is 12%]**.
6. Alexander Semenov, **Alexander Nikolaev**, Alexander Veremyev, Vladimir Boginski, & Eduardo Pasiliao, "An Analysis of Viral Advertisement Re-posting Activity in Social Media", *Proceedings of the 5th International Conference on Computational Social Networks, Lecture Notes in Computer Science*, Volume 9795, pp. 123-134, 2016.
7. Alireza Farasat*, Geoff Gross, Rakesh Nagi, & **Alexander Nikolaev**, "Social Network Extraction and High Value Individual (HVI) Identification within Fused Intelligence Data", *Proceeding of 2015 International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction, Lecture Notes in Computer Science,* Volume 9021, pp. 44-54, 2015.
8. Atishay Godre*, **Alexander Nikolaev**, & Rahul Rai, "An Energy Consumption Rewards System to Incentivize Environmentally Conscious Social Behavior", *Proceedings of 2013 International Mechanical Engineering Congress and Exposition*, pp. V012T13A068-V012T13A068, 2013.
9. Alexander Semenov, **Alexander Nikolaev**, & Jari Veijalainen, "Online Activity Traces Around a "Boston Bomber"", *Proceedings of IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*, pp. 1050-1053, 2013.
10. Dinissa Duvanova, Alexander Semenov, & **Alexander Nikolaev**, "Network Analysis of Political Activism in Ukraine", *Proceedings of 2013 Midwest Political Science Association Conference*, (accessible via http://www.mpsanet.org/Portals/0/PaperArchive/), 24 pages, 2013.
11. Michael Stearns, **Alexander Nikolaev**, Sue Kase, & Kirk Ogaard, "Fusion of a Set of Attributed Graphs for Event Reconstruction", In Proceedings of *IIE ISERC 2013 Conference*, 9 pages, 2013.
12. Sabrina Casucci*, Li Lin, & **Alexander Nikolaev**, "A Theoretical Model for Patient Care Transition Process to Reduce Hospital Re-Admission", *Proceedings of 2013 Healthcare Systems Process Improvement Conference*, 8 pages (**Best Student Paper Award**), 2013.
13. Sushant Khopkar*, Rakesh Nagi, & **Alexander Nikolaev** "An Efficient Map-Reduce Algorithm for the Incremental Computation of All-Pairs Shortest Paths in Social Networks", *Proceedings of 2012*

IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining, pp. 1144-1148, 2012.

Refereed Papers Submitted (S)

1. Alireza Farasat*, & **Alexander Nikolaev**, "Constrained Sparse Optimization for Tensor-Based Modeling of Student Learning Dynamics", *Data Mining and Knowledge Discovery* (*Springer, IF: 3.16*), submitted 06/2017.

Working Papers (W)

1. Courtney J. Burris*, Himangshu Paul, & **Alexander Nikolaev**, "Maximizing the Expected Value of Experimentation for Rank Aggregation of top-κ Pairwise Comparisons", prepared for submission to *Decision Analysis*
2. Himangshu Paul, & **Alexander Nikolaev**, "Relaxed Clique Percolation for Disinformation-Resilient Domains in Social Commerce Networks", prepared for submission
3. John Fontecha, Alexander Nikolaev, & Jose Walteros, "Threshold Models of Collective Behavior: Optimal Incentive Program Planning", *Journal of Operational Management*, prepared for submission
4. **Alexander Nikolaev**, Rahul Swamy, Alexander Semenov, "Engaging Team Formation Problem for Reach Maximization of Online Health Communities", *OMEGA: International Journal of Management Science (Elsevier, IF 4.03)*, prepared for submission.
5. Michael Stearns, & **Alexander Nikolaev**, "Accurate and Efficient Fusion of a Set of Attributed Graphs", prepared for submission.
6. Chao Lin*, & **Alexander Nikolaev**, "Advancing Near-Optimal and Optimal Feature Selection Methodologies", prepared for submission to *Optimization Letters* (*Springer, IF: 1.30*).
7. Murat Kurt, **Alexander Nikolaev**, Hernan Caceres & Longsheng Sun, "Kolmogorov-Smirnoff Objective Function Optimization for BOSS", prepared for submission.
8. Raihan Razib*, & **Alexander Nikolaev**, "Towards Observational Causal Inference in Connected Communities: a Study Based on Framingham Social Network Dataset", prepared for submission.
9. Sushant Khopkar*, **Alexander Nikolaev**, & Rakesh Nagi, "A Popularity Spread Model: a Connector Between Small-World and Scale Free Networks", prepared for submission.
10. Michael Stearns, & **Alexander Nikolaev**, "Modeling and Recognition of Complex Temporal Events in SmartHome Environment", *Journal of Ambient Intelligence and Smart Environments (IOS Press, IF 1.063)*, on hold.
11. Neil Coffee, Alireza Farasat*, & **Alexander Nikolaev**, "The Relatedness of Ancient Latin Poetry: a Network Perspective", prepared for submission.

Book Chapters (B)

1. **Alexander Nikolaev** & Sheldon H. Jacobson "The Theory and Practice of Simulated Annealing" in *Handbook on Metaheuristics*, vol. 146. (Ed.), New York: Springer, 2010, pp. 1--40.
2. Adrian J. Lee, **Alexander Nikolaev**, Sheldon H. Jacobson, & Edward C. Sewell "Operations Research Applications in Aviation Security Systems" in *Aviation Security Management*. (Ed.), Praeger Security International, 2008, pp. 126--145.

RESEARCH GRANT ACTIVITY ($1,100K total secured; about $750K personal credit)

Active

1. **Triad National Security LLC,** "Open Research Questions in Data and Information Fusion", **total cost $386,500**, **Alexander Nikolaev (PI),** Moises Sudit (Co-PI), **01/2023-01/2025, 90% credit**

Completed

2. **National Science Foundation,** "CMMI: EAGER: Inferring Comprehensive Traveler Information in Multi-Modal Travel Environment Using Automatic Fare Collection Data", **total cost $150,000**, Jamie Kang (PI), **Alexander Nikolaev (Co-PI), 09/2016-08/2018, 50% credit**
3. **National Science Foundation,** "CMMI: Operational Decision-Making for Reach Maximization of Incentive Programs that Influence Consumer Energy-Saving Behavior", **total cost $215,938.00**, **Alexander Nikolaev (PI)**, Jose Walteros (Co-PI), **09/2016-08/2018, 50% credit**
4. **Transportation Informatics Tier I University Transportation Center,** "Inferring Origin-Destination Demand and Utility-Based Travel Preferences in Multi-Modal Travel Environment Using Automatic Fare Collection Data", **total cost $49,997.00**, Jamie Kang (PI), **Alexander Nikolaev (Co-PI)**, **01/2016-12/2017, 50% credit**
5. **University at Buffalo Center for Excellence in Home Health and Well-Being through Adaptive Smart Environments**, "Informatics Models for the Health Management of Home Care Patients with Chronic Diseases", **total cost $35,000.00**, Li Lin (PI), Sabrina Casucci (Co-PI), **Alexander Nikolaev (Co-PI)**, Sharon Hewner (Co-PI), **09/2015-08/2017, 25% credit**
6. **State University of New York, Innovative Instruction Technology Grant Program** (**Tier 3**), "Crowdlearning: Towards Collaborative, Self-sustaining Learning Environments and Practices", **total cost $50,000.00**, **Alexander Nikolaev (PI)**, Suzanne Miller (Co-PI), July 2016 – June 2017, 2 students funded (A.Farasat, R. Gopalsamy), **07/2016-06/2017, 70% credit**
7. **University at Buffalo Center for Educational Innovation,** Seed Grant "Crowdsourcing for Crowdlearning: a New Online Tool for Advanced Peer Assessment", **total cost $3,500.00, Alexander Nikolaev (PI),** Suzanne Miller (Co-PI), **06/2016-05/2017, 70% credit**
8. **University at Buffalo Center for Educational Innovation,** Seed Grant "Crowd-Learning: Research Agenda and Supporting Evidence Collection", **total cost $10,000.00, Alexander Nikolaev (PI),** Suzanne Miller (Co-PI), **06/2015-05/2016, 70% credit**
9. **National Science Foundation,** Award "ICES: Small: Discovering Structural and Behavioral Laws of Social Networks", **total cost $100,000.00, Alexander Nikolaev (PI)**, Rakesh Nagi (Co-PI), Frank Tutzauer (Senior Investigator), (subcontract **$10,000.00** to Nutonian: Co-PI Michael Schmidt), **09/2012-08/2014, 70% credit**
10. **Army Research Laboratory, MURI: "Unified Research on Network-based Hard/Soft Information Fusion"** (PI Rakesh Nagi), **Subproject** "Extraction of Social Networks based on Fused Data", **total cost $100,000.00**, **Alexander Nikolaev (Co-Investigator**), **06/2012-12/2014, 100% credit**

INDUSTRIAL PROJECTS (about $200K total secured; $130K of personal credit)

1. "Layout Analysis at Ironton Street/8th Ave & Taylor Drive Assembly Area," **completed, total cost $80,000.00**, **Alexander Nikolaev (Co-PI)**, Li Lin (Co-PI), 50% credit, December 2011 - May 2012, 2 students funded (K. Date, S. Cazucci)
2. "Data Integration Project at Habasit Belting, Inc.," **completed, total cost $58,535.00**, **Alexander Nikolaev (PI)**, 100% credit, June 2011 - February 2012, 2 students funded (K. Date, O. Mulay)
3. "Facility Layout Redesign at HDM Hydrolycs LLC.," **completed, total cost $61,280.00**, **Alexander Nikolaev (Co-PI)**, Rakesh Nagi (Co-PI), 50% credit, June 2011 - September 2011, 2 students funded (Y. Song, A. Kucheriya)

INVITED TALKS / SEMINARS

1. Nikolaev, A. (2021, March) *Matching for Observational Causal Inference - Toward Multi-hypothesis Data Mining*, Illinois Institute of Technology, Chicago, IL.
2. Nikolaev, A. (2018, November) *Optimal Randomized Incentive Distribution for Social Influence*, Universidad Adolpho Ibanez, Santiago, Chile.
3. Nikolaev, A. (2018, November) *Rotation Policy Planning for Corruption Prevention*, Universidad Catholica de Norte, Antofagasta & Coquimbo, Chile.
4. Nikolaev, A. (2017, August) *Mutual Information Matching (MIM) for Fast Observational Causal Inference*, Data Science Center, Eindhoven Institute of Technology, Eindhoven, Netherlands.

5. Nikolaev, A. (2016, September), *From Small-World to Scale-Free Networks: What Do Real-World Data Tell Us?*, Symposium on Frontiers in Big Data, University of Illinois at Urbana-Champaign, Urbana, IL.
6. Nikolaev, A. (2015, July) *Prescriptive Social Network Analysis: a Research Agenda and Recent Work on Influence Maximization*, Research & Engineering Education Facility, University of Florida, Shalimar, FL.
7. Nikolaev, A. (2015, May) *Towards Maximizing the Reach of Social Programs and Services*, Faculty of Information Technology, University of Jyvaskyla, Finland.
8. Nikolaev, A. (2015, May) *Distilling Network Effect Confounding in Causal Studies with Connected Human Subjects*, Laboratory of Algorithms and Technologies for Networks Analysis (LATNA), National Research University Higher School of Economics, Nizhny Novgorod, Russia.
9. Nikolaev, A. (2013, April) *Mutual Information Based Matching for Causal Inference with Observational Data*. Rotman School of Business, University of Toronto, Toronto, ON, Canada.
10. Nikolaev, A. (2011, April). *Balance Optimization Subset Selection (BOSS) for Causal Inference.* Rochester Institute of Technology, Rochester, NY.

CONFERENCE PRESENTATIONS (* - Advised student; & - Presenter)

1. *&Burris, C., Paul, H., & Nikolaev, A. (October 2022*) Maximizing the Expected Value of Experimentation for Rank Aggregation of Top-k Pairwise Comparisons*, 2022 INFORMS Annual Meeting, October 16-19, Indianapolis, IN.
2. *Fontecha, J., &Nikolaev, A., Walteros, J., & Zhu, Z. (October 2022*) Distribution of Pro-Environmental Incentives: Opportunities for OR*, 2022 INFORMS Annual Meeting, October 16-19, Indianapolis, IN.
3. &*Burris, C., & Nikolaev, A. (October 2021). *Create & Rank Crowdlearning as an Engagement/Enjoyment Driver in Remote Learning*. 2021 INFORMS Annual Meeting, October 24-27, Anaheim, CA.
4. &*Paul, H., Nikolaev, A. (October 2021). *Fake Review Detection on Online E-commerce Platforms: A Systematic Literature Review*. 2021 INFORMS Annual Meeting, October 24-27, Anaheim, CA.
5. &*Fontecha, J. E., Walteros, J. L., & Nikolaev, A. (November 2020). *Fostering Energy-conscious Behavior through Reach-Impact Maximization*. 2020 INFORMS Annual Meeting, November 8-13, Virtual.
6. &*Paul, H., Nikolaev, A., (November 2020). *Fast Active Sampling for Top-k Rank Aggregation From Pairwise Comparisons via Optimizing the Expected Value of Experimentation*, 2020 INFORMS Annual Meeting, November 8-13, Virtual.
7. &*Burris, C., Nikolaev, A., Zhong, S., & Bian, L. (October 2019) *Network Effects in Influenza Spread: The Impact of Mobility and Socio-Economic Factors*. INFORMS Annual Meeting, Seattle, WA.
8. &Casucci, S., Zhou, Y., Bhattacharya, B.S., Sun, L., Nikolaev, A., Lin, L. (October 2019) *Causal Impact Analysis of the Impact of Homecare Services On Patient Discharge Disposition Factors*. INFORMS Annual Meeting, Seattle, WA.
9. &Nambiar, S., Nikolaev, A., Semenov, A. (October 2019) *Sequential Stochastic Assignment with Unknown Worker Quality.* INFORMS Annual Meeting, Seattle, WA.
10. &*Burris, C., *Farasat, A., & Nikolaev, A. (April 2019) *A Constrained Model Predictive Control Framework for Optimal Teaching Policy*. ASEE, Zone 1, Niagara Falls, NY.
11. &Fontecha*, J. E., Jois, M. H. N., Walteros, J. L., & Nikolaev, A. (2018). *Pro-environmental social influence via randomized incentive programs*. International Mechanical Engineering Congress & Exposition, Pittsburgh, PA.
12. &*Fontecha, J. E., Jois, M. H. N., Walteros, J. L., & Nikolaev, A. (August 2018). *Boosting social influence via randomized incentive programs*. YinzOR Student Conference 2018. Pittsburgh, PA.
13. &*Burris, C., *Farasat, A., & Nikolaev, A. (August 2018) *Time-Dependent Student Performance Modeling and Optimal Teaching Policies*. YinzOR Student Conference 2018. Pittsburgh, PA.
14. &*Fontecha, J. E., Jois, M. H. N., Walteros, J. L., & Nikolaev, A. (November 2018). *On Incentivized-social-influence-based Programs to Promote Behavioral Changes: A Case Study For Incentivizing Households To Save Energy*, 2018 INFORMS Annual Meeting, November 4-7, Phoenix, AZ.

15. &*Perla, A., Nikolaev, A., Pasiliao, E. (November 2018). *Workforce Management under Social Link Based Corruption*, 2018 INFORMS Annual Meeting, November 4-7, Phoenix, AZ.
16. &Nikolaev, A., Semenov, A., Pasiliao, E. (July, 2018) *Sampled Fictitious Play on Networks*, 6th Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
17. &Semenov, A., Nikolaev, A., Pasiliao, E. (July, 2018) *Q-Learning on Networks with Attribute-Rich Nodes*, 6th Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
18. &Nikolaev, A., *Farasat, A. (April, 2018) *Student Modeling for Learning Curve Optimization*. 4th Annual CDSE Days, Buffalo, NY.
19. &*Gopalsamy, R., Nikolaev, A, McIntosh, S., Semenov, A., Pasiliao, E. (October, 2017) *Engagement-based Predictive Analyses of the Growth of Online Health Communities*. INFORMS Annual Meeting, Houston, TX.
20. &Boginski, V., Nikolaev, A., Veremyev, A., Pasiliao, E., Semenov, A. (October, 2017) *Network Analysis of Social Media Portal VK.com*. INFORMS Annual Meeting, Houston, TX.
21. &*Khopkar, S., Nikolaev, A, Nagi, R. (October, 2017) *Explaining the Emergence of Power Laws in Online Social Networks*. INFORMS Annual Meeting, Houston, TX.
22. &Nikolaev, A., Walteros, J. (October, 2017) *Reach Maximization for Direct Incentive-Driven Pro-Environmental Social Programs*, INFORMS Annual Meeting, Houston, TX.
23. &*Perla, A., Nikolaev, A., Pasiliao, E. (August, 2017) *Parameter Inference for Optimal Decentralized Network Formation using a Continuous-Time Actor-Oriented Model*. 5th Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
24. Nikolaev, A., Semenov, A., &Geremew, W., Nguyen, M.N., Boginski, V., Pasiliao, E. (August, 2017) *Cascade Prediction in Social Networks via Euclidean Embedding*. 5th Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
25. &*Wu, L., Kang, J., Nikolaev, A. (November, 2016) *Understanding Traveler Route Choices In Stochastic Multimodal Travel Environment Using Automatic Fare Collection Data*, INFORMS Annual Meeting, Nashville, TN.
26. &*Khopkar, S., Nikolaev, A., Nagi, R. (November, 2016) *From Local To Global Connections: A New Random Graph Model To Explain The Structural Properties Of Real-world Networks*, INFORMS Annual Meeting, Nashville, TN.
27. *Casucci, S., Sun, L., Zhou Y., &Nikolaev, A., Lin, L. (November, 2016) *Mutual Information Minimization For Evaluating The Causal Impact Of Home Care Services On Patient Discharge Disposition*, INFORMS Annual Meeting, Nashville, TN.
28. &*Farasat, A., Nikolaev, A. (November, 2016) *Constrained Sparse Optimization For Tensor Based Modeling Of Student Learning In Collaborative Environments*, INFORMS Annual Meeting, Nashville, TN.
29. &*Gopalsamy, R., Nikolaev, A. (July, 2016) *Distributed Coalitional Learning*. 4th Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
30. &*Perla, A., Nikolaev, A. (July, 2016) *Modeling Social Influence*. 4th Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
31. &Nikolaev, A., *Gopalsamy, R., Semenov, A., Pasiliao, E. (July, 2016) *Assessing User Engagement Capacity as a Driver of Reach of Online Health Platforms*. 4th Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
32. &*Farasat, A., Nikolaev, A. (2015, November) *Social Structure Optimization in Nurse Scheduling Problem*. INFORMS Annual Meeting, Philadelphia, PA.
33. &*Samadi, M., Nikolaev, A., Nagi, R. (2015, November) *Seed Selection Scheduling for Long-term Campaign Planning on Large Social Networks*. INFORMS Annual Meeting, Philadelphia, PA.

34. *Nambiar, S., &Nikolaev, A., Green, M., Cavuoto, L., Bisantz, A. (2015, November) *On Low-cost In-home Sensor Placement for Personalized Tracking of activity of Older Adults*. INFORMS Annual Meeting, Philadelphia, PA.
35. &*Casucci, S., Hewner, S., Lin, L., Nikolaev, A. (2015, November) *Modeling the Impact of Chronic Desease Combinations on 30-day Hospital Readmissions*. INFORMS Annual Meeting, Philadelphia, PA.
36. *Kumar, A., &Kang, J., Nikolaev, A. (2015, November) *Inferring Travelers' Origin-Destination and Preferences via Shared Mobility System Utilization*. INFORMS Annual Meeting, Philadelphia, PA.
37. &*Perla, A., Nikolaev, A., Pasiliao, E. (July, 2015) *A Formal Approach to Preventing Malignant / Corrupt Activity of Networked Agents*. 3rd Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
38. &*Diaz, C., Nikolaev, A., Pasiliao, E. (July, 2015) *Decentralized Network Structure Formation for Robust Information Spread*. 3rd Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
39. &*Nambiar, S., Nikolaev, A., Pasiliao, E. (July, 2015) *Sequential Stochastic Assignment with the Uncertainty in Worker Survival*. 3rd Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
40. &*Samadi, M., Nikolaev, A., Nagi, R. (July, 2015) *The Impact of Intervention Timing on Maximizing Bayesian Evidence Spread in Social Networks*. 3rd Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
41. &Semenov, A., Nikolaev, A., Veremyev, A., Bogisnsky, V. (July, 2015) *An Analysis of Viral Advertisement Re-Posting Activity in Social Media*. 3rd Annual Meeting of the Mathematical Modeling and Optimization Institute, University of Florida, Research & Engineering Educational Facility, Shalimar, FL.
42. &*Casucci, S., Nikolaev, A., Lin, L., Hewner, S. (2015, May) *Modeling the impact of chronic disease combinations on 30-day hospital readmissions*. Hitting the Accelerator: Health Research Innovation through Data Science, UNYTE Scientific Session, Rochester, NY.
43. *Samadi, M., &Nikolaev, A., Nagi R. (2015, May) *Bayesian Evidence Cascades and Seed-Initiated Marketing Campaigns in Social Networks*. 5th International Conference on Network Analysis (NET2015), Nizhny Novgorod, Russia.
44. &*Haider, Z., Kwon, C., Nikolaev, A., Kang, J. E. (2015, May) *Inventory Rebalancing through Pricing in Public Bike Sharing Systems*. IIE Annual Conference and EXPO, Nashville, TN.
45. *Farasat, A., Gross, G., Nagi, R., &Nikolaev, A. (2015, April) *Social Network Extraction and High Value Individual (HVI) Identification within Fused Intelligence Data*. 2015 International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction (SBP'15), Washington, DC.
46. *Khopkar, S., &Nikolaev, A., Nagi, R. (2014, November) *Understanding the Emergence of Power Laws in Empirical Data*. INFORMS Annual Meeting, San Francisco, CA.
47. &*Samadi, M., Nikolaev, A., Nagi, R. (2014, November) *A Subjective Evidence Model for Influence Maximization in Social Networks*. INFORMS Annual Meeting, San Francisco, CA.
48. &*Khopkar, S., Nikolaev (2014, November) *Predicting Long-Term Product Ratings in Business-to-Consumer Online Systems*. INFORMS Annual Meeting, San Francisco, CA.
49. *Khopkar, S., &Nikolaev, A., Nagi, R. (2014, February) *Towards Understanding the Laws Behind Small World and Scale Free Network Formation*. INSNA Sunbelt XXXIV, St. Pete Beach, FL.
50. &*Farasat, A., Nikolaev, A. (2014, February) *A Probabilistic Framework for Distilling Peer Pressure in Decision-Making on Social Networks*. INSNA Sunbelt XXXIV, St. Pete Beach, FL.
51. &*Samadi, M., Nikolaev, A. (2014, February) *Explaining and Resolving Degeneracy in Exponential Random Graph Model Estimation*. INSNA Sunbelt XXXIV, St. Pete Beach, FL.
52. &*Nambiar, S., Nikolaev, A. (2014, February) *Network Formation-Based Exponential Random Graph Modeling*. INSNA Sunbelt XXXIV, St. Pete Beach, FL.
53. *Godre, A., Nikolaev, A., &Rai, R. (2013, November) *An Energy Consumption Rewards System to Incentivize Environmentally Conscious Social Behavior*. 2013 International Mechanical Engineering Congress and Exposition, San Diego, CA.
54. Semenov, A., &Nikolaev, A., Veijalainen, J. (2013, August) *Online Activity Traces Around a "Boston Bomber"*. International Symposium on Foundations of Open Source Intelligence and Security Informatics. 2013 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Niagara Falls, ON, Canada.

55. &Duvanova, D., Semenov, A., Nikolaev, A. (2013, April) *Network Analysis of Political Activism in Ukraine*. 2013 Midwest Political Science Association Conference, Chicago, IL.
56. Stearns, M., &Nikolaev, A., Kase, S., Ogaard, K. (2013, February) Fusion of a Set of Attributed Graphs for Event Reconstruction. IIE Annual Conference and EXPO, San Juan, Puerto Rico.
57. &*Casucci, S., Lin, L., Nikolaev, A. (2013, March) *A Theoretical Model for Patient Care Transition Process to Reduce Hospital Re-Admission*. 2013 Healthcare Systems Process Improvement Conference, New Orleans, LA.
58. *Khopkar, S., Nagi, R., &Nikolaev, A. (2012, August) *An Efficient Map-Reduce Algorithm for the Incremental Computation of All-Pairs Shortest Paths in Social Networks*. Workshop on Data Management in the Social Semantic Web, 2012 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Istanbul, Turkey.
59. &Sun, L., Nikolaev, A. (2012, November) *Mutual Information Based Matching for Causal Inference with Observational Data*. The INFORMS National Meeting, Phoenix, AZ.
60. &*Casucci, S., Lin, L., Nikolaev, A. (2012, November) *A decision support framework for healthcare transition programs to reduce hospital readmissions*. The INFORMS National Meeting, Phoenix, AZ.
61. &Jacobson, S.H., King, D., Lee, A., Nikolaev, A. (2012, November) *BracketOdds: Examining the NCAA Tournament with Advanced Analytics*. The INFORMS National Meeting, Phoenix, AZ.
62. *Khopkar, S., Nagi, R., &Nikolaev, A. (2012, August) *An Efficient Map-Reduce Algorithm for the Incremental Computation of All-Pairs Shortest Paths in Social Networks*. Workshop on Data Management in the Social Semantic Web, 2012 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Istanbul, Turkey.
63. &Nikolaev, A., Jacobson, S. H. (2012, July). *Balance Optimization Subset Selection (BOSS) for Causal Inference with Observational Data*. 25th European Conference on Operational Research, Vilnius, LT.
64. &*Casucci, S., Lin, L. & Nikolaev, A. (2012, May). *Toward a Modeling Framework for Hospital Re-Admission Rate Reduction*. 2012 CORS/MOPGP International Joint Conference, Niagara Falls, ON.
65. &*Khopkar, S., Nagi, R., & Nikolaev, A. (2012, March). *Dynamic Algorithms for SNA Metrics Calculations Using Distributed Storage and Computing Approach*. Social Network Analysis Big Data Hackathon Workshop, INSNA Sunbelt XXXII, Redondo Beach, CA.
66. &Nikolaev, A., & Jacobson, S. H. (2011, January). *Sequential Stochastic Decision-Making with a Random Number of Jobs*. The INFORMS Computing Society Conference, Monterey, CA.
67. &Nikolaev, A., Jacobson, S. H., Tam Cho, W. K., Sauppe, J., & Sewell, E. C. (2010, November). *Balance Optimization Subset Selection (BOSS) for Causal Inference*. The INFORMS National Meeting, Austin, TX.
68. &Nikolaev, A., & Jacobson, S. H. (2008, March). *Sequential Stochastic Assignment with a Random Number of Jobs*. The INFORMS Optimization Society Conference, Atlanta, GA.
69. &Nikolaev, A., Jacobson, S. H., McLay, L. A. (2007, November). *Designing Aviation Security Systems Using a Sequential Decision Process*. The INFORMS National Meeting, Seattle, WA.

POSTER PRESENTATIONS (* - Advised student; & - Presenter)

1. *&Fontecha, J., *Behrendt, A., *Munera, W., Walteros, J., Nikolaev, A., "Pro-environmental social influence via randomized incentive programs", *2018 International Mechanical Engineering Congress & Exposition*, November 9-15, Pittsburgh, PA (2018).
2. *&Burris, J.C., *Farasat, A., Nikolaev, A., "Time-Dependent Student Performance Modeling and Optimal Teaching Policies", *2018 YinzOR Student Conference*, August 24-25, Pittsburgh, PA (2018).
3. *&Fontecha, J., *Jois, M., Walteros, J., Nikolaev, A., "Boosting social influence via randomized incentive programs", *2018 YinzOR Student Conference*, August 24-25, Pittsburgh, PA (2018).
4. *&Perla, A., Nikolaev, A., Pasiliao, E., "Optimal Decentralized Network Formation Using A Continuous-time Actor-oriented Model", *2017 INFORMS Annual Meeting,* October 25-29, Houston, TX (2017).
5. &Bhattacharya, B., Casucci, S., Zhou, Y., Lin, L., Nikolaev, A., "Causal Analyses for the Impact of Homecare Services on Patient Discharge Disposition", October 25-29, Houston, TX (2017) **(Runner-Up in the UB ISE Department Poster Competition)**.

6. Nikolaev, A., &Semenov, A., "Cascade Prediction in Social Networks via Euclidian Embedding", *Symposium on Computer Science in Finland*, August 31 – September 2, Helsinki & Espoo, Finland (2017).
7. &Nikolaev, A., Semenov, A., "Measuring Engagement as a Driver of the Reach of Online Health Communities", *Symposium on Computer Science in Finland*, August 31 – September 2, Helsinki & Espoo, Finland (2017).
8. *Gopalsamy, R., *Farasat A., &Nikolaev A., Gonzalez, C., Miller, S., "Crowdlearning: Design, Development and Supporting Evidence", *2017 SUNY CIT Conference*, May 31 – June 2, Oneonta, NY (2017).
9. *Farasat A., &Nikolaev A., Miller, S., *Gopalsamy, R. "Crowdlearning: Research Agenda and Supporting Evidence Collection", *2016 Genteels' Conference on Excellence in Teaching*, Buffalo, NY (2016).
10. &Bae, S-H, Farasat, A., Nikolaey, A., Seo, J. Y., Foltz-Ramos, K., Fabry, D., & Castner, J. "Nursing Teams: Behind the Charts," *31st Annual Conference of Southern Nursing Research Society*, Dallas, TX (2017).
11. &*Farasat, A., Nikolaev A. "Intelligent Tutoring Systems: Future Paradigm of Educational Environments," *2015 INFORMS Annual Meeting*, Nov 1 – Nov 4 2015, Philadelphia, PA. (2015) **(Runner-Up in the INFORMS Poster Competition)**.
12. &*Samadi, M., Nikolaev A. "Finding Influential Nodes for Initiating Successful Campaigns in Social Networks," *2015 INFORMS Computing Society (ICS) Conference*, January 11-13 2015, Richmond, VA. (2015) **(Winner of UB ISE Poster Competition and ICS Conference Student Travel Award**).
13. &*Casucci, S., Lin, L., Nikolaev, A. "A decision support framework for healthcare transition programs to reduce hospital readmissions," *Minority Issues Forum Poster Competition*, 2012 INFORMS Annual Meeting, Phoenix, AZ (2012).
14. &*Nikolaev, A., McIntosh, S. "On the Value of Weak Ties for Modeling Interventions in Online Health Communities," International Symposium on Network Enabled Health Informatics, Biomedicine and Bioinformatics, *In Proceedings of IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining* (*ASONAM*), Niagara Falls, ON, Canada, August 25-28 2013, pp. 1480-1481 (2013).

SERVICE

Professional Service

Significant Editorial Activities
Associate Editor, *Socio-Economic Planning Sciences (Elsevier, IF 4.9)*, 2016 - Present.
Associate Editor, *OMEGA: International Journal of Management Sciences (Elsevier, IF 7.1),* 2018 - 2022.
Guest Editor, Special Issue of *Socio-Economic Planning Sciences* on "Social Network Modeling", 2014-2016

Significant Conference Support Activities
Chair, INFORMS IMPACT Prize Committee (2022-2025).
Program Co-Chair, INFORMS Annual Meeting (2022).
Member, INFORMS IMPACT Prize Committee (2019-2021).
Member, INFORMS JFIG Paper Competition Committee (2018, 2020).
General Chair, 11th International Conference on Educational Data Mining (2018).

Invited Reviewer Activities
Panelist, National Science Foundation: CMMI 2011, CMMI 2012, BigData 2012, CMMI 2014, SCH 2020.
Reviewer, Zone 1 ASEE Conference (2019).
Reviewer, 2017 Design Engineering Technical Conference (2017).
Reviewer, 2016 International Conference on Computational Social Networks (2016).
Reviewer, 12th International Conference on Web Information Systems and Technologies (2015).
Reviewer, 2013 IIE Annual Conference and Expo (2013).

Reviewer, 2012 Winter Simulation Conference (2012).

Ad-hoc Reviewer Activities
The below counts are of distinct papers I reviewed for different journals; these counts do not include the counts of the (multiple) revisions of the initial submissions which I also reviewed:
Applied Health Economics and Health Policy (1),
BMC Medical Informatics and Decision Making (1),
Communications of the ACM (1),
Computers and Industrial Engineering (1),
Entropy (1),
European Journal of Operational Research (6),
Expert Systems with Applications (1),
IEEE Transactions on Information Theory (1),
IEEE Transactions on Intelligent Transportation Systems (1),
IEEE Transactions on Learning Technologies (1),
IISE Transactions (3),
Information Sciences (1),
INFORMS Journal on Computing (1),
Journal of Applied Probability (2),
Journal of the Association for Information Science and Technology (2)
Journal of Machine Learning Research (2)
Journal of Medical Internet Research (5)
Journal of Quantitative Analysis of Sports (1),
Management Science (1),
Network Modeling Analysis in Health Informatics and Bioinformatics (1),
Networks (2),
OMEGA: International Journal of Management Science (4, outside my tenure as an editor),
Operations Research (4),
Optimization Letters (2),
Pattern Recognition (2),
PLOS ONE (2),
Reliability Engineering & System Safety (1),
Risk Analysis (2),
Social Network Analysis and Mining (1),
Social Networks (2),
Socio-Economic Planning Sciences (6, outside my tenure as an editor),
Statistics in Medicine (1),
Transportation Research Part A (1),
Transportation Research Part B (2),
Transportation Research Board (1),
Transportation Research Record (1),
Transportation Science (1)

University Service

Member, UUP Individual Development Award Program Committee (2017-18, 2018-19, 2019-20, current).
Member, iSEED Student Advisory Group (2019)
Member, College of Engineering Graduate Scholarship and Fellowship Committee (2016-2017).
Panelist (reviewer), UB Innovative Micro-Programs Accelerating Collaboration in Themes (IMPACT) (2016-2017).
Member, UB Community of Excellence: Global Health (2014 - Present).
Member, UB Information and Computing Technology Strength Group (2010 - 2014).
Speaker, UB Engineering Future Faculty Workshop, 2011, 2012, 2013.

Department Service

Director of Graduate Program (Jan 2019 – Jan 2021, Sep 2021 – Jan 2022 (interim))

Member, Graduate Student Awards Committee (May 2019 – May 2020)
Adviser, Omega Rho Honorary Society (Sep 2016 – 2018)
Member, Graduate Affairs Committee (Sep 2010 – May 2016)
In this capacity, I reviewed about 250 M.S. and Ph.D. student applications per year, in the area of Operations Research, assist the ISE Graduate Program Director in student funding decisions, and provide advice to current graduate students.
Coordinator, ISE Poster Competition (Mar 2012).
Advisor, Alpha Pi Mu Honorary Society (Sep 2011 – 2015).
Coordinator, ISE Department Seminar Series (Sep 2010 - May 2011).
Member, Faculty Search Committee (2010-11, 2011-12, 2015-16, 2016-17).

PROFESSIONAL DEVELOPMENT ACTIVITIES

Participant, 2012 NSF CAREER Proposal Writing Workshop, Reno, NV (March 2012)
Participant, 2013 NIH Proposal Writing Workshop, Buffalo, NY (September 2013)
Organizer and Participant, 2013 Workshop "Introduction to Web Crawling", Social Optimization Laboratory, University at Buffalo, Buffalo, NY (August 2013)
Participant, 2015 NIH Grants Seminar: Insights and Strategies for Early & Mid-Career Scholars, Buffalo, NY (August 2015)

PROFESSIONAL MEMBERSHIPS

Institute for Operations Research and Management Sciences (2003 - current)
International Network for Social Network Analysis (2010 - 2015)
Association for Computing Machinery (2012 - 2014)
Institute for Industrial Engineers (2003 - 2013)

TEACHING

University at Buffalo, Industrial and Systems Engineering (ISE) (2010 – Present)

ISE 551, *Simulation and Stochastic Models*, Spring 2011-2017 (class size 30-50).
ISE 374, *Systems Modeling and Optimization OR 2*, Spring 2011-14 (class size 25-45).
ISE 575, *Stochastic Methods*, Fall 2010-2012, 2016 (class size 25-40).
ISE 411/511, *Social Network Behavior Modeling*, Fall 2012-2016 (class size 20-30).
Developed, 2012 (approved by the University at Buffalo):
This undergraduate/graduate level course reviews key concepts and findings with network perspectives on communicating and organizing. It relies on scholarship on the science of networks in communication, computer science, economics, engineering, organizational science, life sciences, physical sciences, political science, psychology, and sociology. The course includes weekly lectures and discussion sessions based on provided reading materials, and also, familiarizes students with social network analysis software via lab assignments. The assessment is done based on online forum participation, submitted lab reports, and term papers. Both course content and team final projects aim to promote collaboration between exact and social science students, requiring them to complement each other's expertise.
ISE 555, *Programming for Analytics*, Spring 2015, 2016 (class size 20-35).
Developed, Fall 2014 (approved by the University at Buffalo):
This graduate level course teaches students to apply programming skills and use the knowledge of Operations Research (OR) models and methods in practice. Beginning with a quick introduction to Python programming language, the course covers algorithms for OR-specific real-world data analysis and decision-making, based on case studies. The course material is taught through weekly lectures. The assessment is done based on student participation in interactive online programming sessions, submitted homework reports, and projects done both individually and in teams. The skills the students are expected to attain include query-driven data organization and manipulation, and optimization algorithm implementation in application to facility location, inventory control, transportation problems, dynamic resource allocation and scheduling, and other conventional OR problem settings.

University of Jyväskylä, Finland, 24th Jyväskylä Summer School (August 2014)

INFORMATION SYSTEMS 1, *Social Network Behavior Analysis*, 1 course (class size 30-40).

(August 2016)
INFORMATION SYSTEMS 1, *Social Media Analytics*, 1 course (class size 35-40).
(August 2017)
INFORMATION SYSTEMS 1, *Social Media Analytics*, 1 course (class size 30-35).

ITMO University, Russia, Intensive Social Media Weeks (May 2015)

Natural Language Processing and Linked Data, 1 course (class size 40-45).

Universidad Catholica de Norte, Department of Industrial and Civil Engineering (November 2018)

Modeling and Optimization for the Analysis of Social Networks and Social Media Data,
2 bootcamp/workshop courses (class size 50-55).

Northwestern University, Industrial Engineering and Management Sciences (IEMS) (2009 – 2010)

IEMS 310, *Introduction to Operations Research*, 1 course (class size 15-20).
IEMS 372, *Introduction to Probability Theory and Statistics*, 2 courses (class size 40-45).
IEMS 415, *Simulation*, 2 courses (class size 35-40).

STUDENT ADVISEMENT

Ph.D. Students Supervised

1. Sangeeth Das (**exp/graduation**: August 2026)
2. Courtney Burris (**exp/graduation**: August 2023)
3. Himangshu Paul (**graduated**: August 2022; now at Wells Fargo)
4. John Fontecha (**graduated**: August 2021; **co-advised** with Dr. Jose Walteros; now at American Airlines)
5. Laiyun Wu (**graduated** in August 2019; **co-advised** with Dr. Jee Eun Kang; now at Walmart)
   Committee: Qing He
   Ph.D. Thesis: *"Data-driven transit system modeling Using Automated Fare Collection data"*
6. Alireza Farasat (**graduated** in January 2017: now at Twilio) Committee: Moises Sudit, Varun Chandola
   Ph.D. Thesis *"Personalization and Learning Curve Optimization in Intelligent Tutoring Systems"*
7. Sushant Khopkar (**graduated** in January 2017; **co-advised** with Dr. Rakesh Nagi: now at LamaSoft)
   Committee: Jose Walteros
   Ph.D. Thesis *"Computational Advances in Data Analytics with Social Networks"*
8. Mohammadreza Samadi (**graduated** in May 2016: now at American Airlines) Committee: Rajan Batta, Minakshi Trivedi
   Ph.D. Thesis *"Optimal Strategies for Controlling Cascades in Social Networks: An Influence Maximization Approach"*
9. Shounak Gore (**graduated** in May 2016; **co-advised** with Dr. Venu Govindaraju) Committee: Varun Chandola, Jing Gao
   Ph.D. Thesis *"A Game-Theoretic Analysis of Engagement in Social Networks"*
10. Sabrina Casucci (**graduated** in August 2015; **co-advised** with Dr. Li Lin: now a faculty at UB)
    Committee: Sharon Hewner
    Ph.D. Thesis *"Evaluating the Impact of Chronic Diseases and Healthcare Interventions on Post-Discharge Patient Outcomes"*
11. Raihan Habib Razib (**graduated** in August 2015) Committee: Rajan Batta, Changheun Kwon
    Ph.D. Thesis *"New Developments in Exponential Random Graph Modeling"*

M.S. Students Supervised

1. Pushkaraj Palnitkar

2. Zhiyuan Wu (graduated in May 2019: went on for Ph.D. at UB)
   M.S. Thesis "Shortest Path Problem with Random Rerouting"
3. Aditya Patankar (graduated in August 2018: went on to work in industry)
   M.S. Thesis "Simulating the Spatial Spread of Influenza Epidemic through an Urban Transportation Environment"
4. Rahul Gopalsamy (graduated in August 2017: went to do an M.S. in CS)
   M.S. Thesis "Engagement-based Analyses of the Growth of Online Health Forums"
5. Christopher Diaz (graduated in January 2017: went on for Ph.D.)
   M.S. Thesis "Decentralized Network Structure Formation for Robust Information Spread"
6. Abhinab Perla (graduated in July 2016)
   M.S. Thesis "Network-Based Corruption Modeling"
7. Aashwinkumar Devari (graduated in February 2016, co-advised with Qing He: now at Seaboard Foods)
   M.S. Thesis "Crowdsourced Last Mile Delivery Using Social Networks"
8. Siddartha Nambiar (graduated in August 2015: went on for Ph.D. at NC State)
   M.S. Thesis "Sequential Stochastic Assignment with Incomplete Information About Worker Qualities"
9. Anshuman Kumar (graduated in June 2015; co-advised with Jamie Kang)
   M.S. Thesis "Inferring OD-Pairs and Utility-Based Travel Preferences for Shared Mobility System Users in a Multi-Modal Environment"
10. Dongsheng Yu (graduated in Jan 2015)
    M.S. Thesis "Evaluating Shortfall Distributions in Periodic Inventory Systems with Stochastic Correlated Demands and Leadtimes"
11. Manjunath Jois (graduated in Jan 2015, co-advised with Jose Walteros)
    M.S. Thesis "A Column Generation Approach to Solve Multi-Team Influence Maximization Problem for Social Lottery Design"
12. Amruta Nayak (graduated in Aug 2014: now at IAC Group)
    M.S. Thesis "Increasing the Energy Conservation Awareness Using the Influential Power of a Lottery System"
13. Koustubh Kulkarni (graduated in Aug 2014: now at CGN Global consulting firm)
    M.S. Thesis "The Analysis of User Engagement Dynamics in Online Question and Answer Communities"
14. Raihan Habib Razib (graduated in Jan 2013 and then did a Ph.D. at UB)
    M.S. Thesis "A Probabilistic Reasoning Approach for Constructing Underground Water Maps with Varying Local Hydraulic Conductivity"
15. Chao Lin (graduated in Sep 2012: now at Amtrak)
    M.S. Thesis "Advancing Optimal and Near-Optimal Feature Selection Methodology"

Other Graduate Students (did projects / co-authored papers, but did not defend with me as advisor):
Ritwik Raj (graduated in 2021), Hernan Caceres (graduated in 2016: now a faculty at Universidad Católica del Norte, Chile), Abhishek Sarma (graduated in 2017), Mohammed Helal (graduated in 2017: now at University of Washington), Yuan Zhou (graduated in 2016: now a faculty at Texas Arlington), Piyush Choppra Raychand Chopra (graduated in 2016: now at CRISIL), Rahul Swamy (graduated in 2015: now at Illinois), Michael Stearns (graduated in 2014: now at CitiBank), Lei Sun (graduated in 2013: now at Praxair, Inc.), Atishay Godre (graduated in 2013), Abhiram Chebiyyam (graduated in 2012: now at Delta Airlines), Ashwin Kucheriya (graduated in 2012: now at Columbia Sportswear), Shrikant Badgujar (graduated in 2011: now at John Deer Inc.)

Undergraduate Students Supervised

Widad Munera (graduated in May 2018)
Adam Behrendt (graduated in May 2018: went on for Ph.D. at another school)
Sumeet Deep Kumar (graduated in August 2014: now at Aisin USA Manufacturing)
Zhihao Liu (graduated in May 2012: went on for an M.S. degree at Georgia Tech)

Other Supervision Activities

2013 BEAM/SEAS Summer Honors Research Program – High School Student Host, Student: Erin O'Brian

Dissertation Committee Member of

Meghan Donahue (Ph.D., Major Professors: Victor Paquet) A-Exam done
Elliott Biltekoff (Ph.D., Major Professor: Matthew Bolton) A-Exam done
Somayeh Dejboard (Ph.D., Major Professors: Jamie Kang and Mark Karwan) Defense 01/22
Zack Ball (Ph.D., Major Professor: Kemper Lewis) Defense 02/20
Ali Pala (Ph.D., Major Professor: Jun Zhuang) Defense 05/19
Saeede Eftekhari (Ph.D., Major Professor: Ramesh Ramaswamy) Defense 05/19
Yuan Zhou (Ph.D., Major Professor: Li Lin) Defense 07/16
Greg Tauer (Ph.D., Major Professors: Rakesh Nagi, Moises Sudit) Defense 08/12
Matt Henchey (Ph.D., Major Professor: Rajan Batta) Defense 12/12