Qihang Lin

Associate Professor
Department of Business Analytics
Henry B. Tippie College of Business
University of Iowa

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA **2008-2013**

- Tepper School of Business
- Ph.D., Algorithms, Combinatorics and Optimization, advised by Javier Pena

Tsinghua University, Beijing, China **2004-2008**

- Department of Mathematical Sciences
- B.S., with Highest Honors in Mathematics

EXPERIENCE

- **Associate Professor**, Department of Business Analytics, Tippie College of Business, University of Iowa, Iowa City, IA **2019-present**
- **Assistant Professor**, Department of Business Analytics, Tippie College of Business, University of Iowa, Iowa City, IA **2013-2019**
- Faculty in Applied Mathematical and Computational Sciences PhD Program **2013-present**

RESEARCH INTERESTS

- Continuous optimization, first-order methods, distributed optimization, error bound conditions
- Machine learning, predictive and prescriptive analytics, big data analysis, fairness in AI
- Markov decision processes

HONORS AND AWARDS

- Henry B. Tippie Research Fellow **2023-present**
- Tippie Full-Time MBA Business Analytics Professor of the Year, Tippie College of Business, University of Iowa **2019**
- INFORMS Data Science Workshop Best Paper Award Runner-Up, INFORMS College on Artificial Intelligence **2019**
- Early Career Research Award, Tippie College of Business, University of Iowa **2018**
- INFORMS Data Science Workshop Best Paper Award, INFORMS College on Artificial Intelligence **2017**
- Summer Research Award, Tippie College of Business, University of Iowa **2015**
- Old Gold Summer Fellowship, University of Iowa **2014**

JOURNAL PUBLICATIONS

[J.25] P. Pakiman, S. Nadarajah, N. Soheili, and Q. Lin. **Self-guided approximate linear programs.** *Management Science.* Published Online. 2024.

[J.24] Q. Lin and Y. Xu. **Reducing the Complexity of Two Classes of Optimization Problems by Inexact Accelerated Proximal Gradient Method Problems.** *SIAM Journal on Optimization*. 33(1):1-38, 2023.

[J.23] Q. Lin, R. Ma, and Y. Xu. **Complexity of an Inexact Proximal-Point Penalty Method for Constrained Smooth Non-Convex Optimization.** *Computational Optimization and Applications*.

82:175–224, 2022.

[J.22] T. Wang and Q. Lin**. Hybrid Predictive Model: When an Interpretable Model Collaborates with a Black-box Model**. *Journal of Machine Learning Research.* 22(137):1-38, 2021.

[J.21] M. Liu, H. Rafique, Q. Lin, and T. Yang. **First-order Convergence Theory for Weakly-Convex-Weakly-Concave Min-max Problems.** *Journal of Machine Learning Research*. 22(169):1-34, 2021.

[J.20] H. Rafique, M. Liu, Q. Lin and T. Yang. **Weakly-Convex-Concave Min-Max Optimization: Provable Algorithms and Applications in Machine Learning**. *Optimization Methods and Software*.37(3):1087-1121, 2021.

[J.19] X. Chen, Q. Lin, and G. Xu. **Distributionally Robust Optimization with Confidence Bands for Probability Density Functions**. *INFORMS Journal on Optimization*. 4(1): 65–89, 2022.

[J.18] Q. Lin, S. Nadarajah, N. Soheili, and T. Yang. **A Data Efficient and Feasible Level Set Method for Stochastic Convex Optimization with Expectation Constraints**. *Journal of Machine Learning Research*. 21(143):1−45, 2020.

[J.17] T. Yang, L. Zhang, Q. Lin, S. Zhu, and R. Jin. **High-dimensional model recovery from random sketched data by exploring intrinsic sparsity**. *Machine Learning*. 109:899–938, 2020.

[J.16] X. Chen, Q. Lin and Z. Wang. **Comparison-Based Algorithms for One-Dimensional Stochastic Convex Optimization.** *INFORMS Journal on* Optimization, 2(1): 34–56, 2020.

[J.15] L. Xiao, W. Yu, Q. Lin and W. Chen. **DSCOVR: Randomized Primal-Dual Block Coordinate Algorithms for Asynchronous Distributed Optimization**. *Journal of Machine Learning Research*, 20(43):1−58, 2019.

[J.14] Q. Lin, S. Nadarajah and N. Soheli, **Revisiting Approximate Linear Programming: Constraint-Violation Learning with Applications to Inventory Control and Energy Storage**. *Management Sciences,* 66(4): 1544-1562, 2020.

[J.13] X. Chen, Q. Lin, B. Sen. **On Degrees of Freedom of Projection Estimators with Applications to Multivariate Nonparametric Regression**. *Journal of the American Statistical Association.*115(529): 173-186, 2020.

[J.12] Q. Lin, S. Nadarajah and N. Soheli. **A Level-set Method For Convex Optimization with a Feasible Solution Path.** *SIAM Journal on Optimization*, 28(4): 3290–3311, 2018.

[J.11] T. Yang and Q. Lin. **RSG: Beating Subgradient Method without Smoothness and Strong Convexity**. *Journal of Machine Learning Research*. 19(6):1−33, 2018.

[J.10] J. D. Lee, Q. Lin, T. Ma and T. Yang. **Distributed Stochastic Variance Reduced Gradient Methods by Sampling Extra Data with Replacement.** *Journal of Machine Learning Research.*18(122):1−43, 2017.

[J.9] X. Chen, K. Jiao and Q. Lin. **Bayesian Decision Process for Cost-Efficient Dynamic Ranking via**

Crowdsourcing. *Journal of Machine Learning Research*, 17(217):1−40, 2016.

[J.8] Q. Lin, Z. Lu and L. Xiao. **An Accelerated Proximal Coordinate Gradient Method and its Application to Regularized Empirical Risk Minimization.** *SIAM Journal on Optimization*, 25(4):2244-2273, 2015.

[J.7] T. Yang, R. Jin, S. Zhu, Q. Lin. **On Data Preconditioning for Regularized Loss Minimization.** *Machine Learning*, 103(1):57-79, 2016

[J.6] Q. Lin, X. Chen and J. Peña. **A Trade Execution Model under a Composite Dynamic Coherent Risk Measure.** *Operations Research Letters*, 43(1):52-58, 2015.

[J.5] Q. Lin and L. Xiao. **An Adaptive Accelerated Proximal Gradient Method and its Homotopy Continuation for Sparse Optimization.** *Computational Optimization and Applications*, 60(3): 633-674, 2015.

[J.4] X. Chen, Q. Lin and D. Zhou. **Statistical Decision Making for Optimal Budget Allocation in Crowd Labelling.** *Journal of Machine Learning Research*, 16(1):1-46, 2015.

[J.3] Q. Lin, X. Chen and J. Peña. **A Sparsity Preserving Stochastic Gradient Method for Composite Optimization.** *Computational Optimization and Application*, 58(2):455-482, 2014.

[J.2] Q. Lin, X. Chen and J. Peña. **A Smoothing Stochastic Gradient Method for Composite Optimization.** *Optimization Methods and Software*, 29(6):1281-1301, 2014.

[J.1] X. Chen, Q. Lin, S. Kim, J. Carbonell and E. Xing. **Smoothing Proximal Gradient Methods for General Structured Sparse Regression.** *Annals of Applied Statistics*, 6(2):719-752, 2012.

REFEREED CONFERENCE PBULICATIONS

[C.25] Y. Huang and Q. Lin. **Oracle Complexity of Single-Loop Switching Subgradient Methods for Non-Smooth Weakly Convex Functional Constrained Optimization.** *Neural Information Processing Systems (NeurIPS)*, 2023.

[C.24] Y. Yao, Q. Lin and T. Yang. **Stochastic Methods for AUC Optimization subject to AUC-based Fairness Constraints.** *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2023.

[C.23] Y. Yao, Q. Lin and T. Yang. **Large-scale Optimization of Partial AUC in a Range of False Positive**. *Neural Information Processing Systems (NeurIPS), 2022.*

[C.22] R. Ragodos, T. Wang, Q. Lin and X. Zhou. **ProtoX: Explaining a Reinforcement Learning Agent via Prototyping**. *Neural Information Processing Systems (NeurIPS), 2022.*

[C.21] X. Wang, X. Chen, Q. Lin and W. Liu. **Bayesian Decision Process for Budget-efficient Crowdsourced Clustering**. *International Joint Conference on Artificial Intelligence (IJCAI)*, 2020.

[C.20] Y. Yan, Y. Xu, Q. Lin, W. Liu and T. Yang. **Optimal Epoch Stochastic Gradient Descent Ascent Methods for Min-Max Optimization**. *Neural Information Processing Systems (NeurIPS), 2020.*

[C.19] H. Rafique, T. Wang, Q. Lin. and A. Singhani. **Transparency Promotion with Model-Agnostic Linear Competitors.** *International Conference of Machine Learning (ICML)*, 2020.

[C.18] R. Ma, Q Lin, and T. Yang. **Quadratically Regularized Subgradient Methods for Weakly Convex Optimization with Weakly Convex Constraints.** *International Conference of Machine Learning (ICML)*, 2020.

[C.17] Y. Xu, Q. Qi, Q. Lin, R. Jin and T.Yang. **Stochastic optimization for DC functions and non-smooth non-convex regularizers with non-asymptotic convergence.** *International Conference of Machine Learning (ICML)*, 2019.

[C.16] Y. Yan, T. Yang, Z. Li, Q. Lin and Y. Yang. **A Unified Analysis of Stochastic Momentum Methods For Deep Learning.** *International Joint Conferences on Artificial Intelligence (IJCAI)*, 2018.

[C.15] Q. Lin, R. Ma and T. Yang. **Level-Set Methods for Finite-Sum Constrained Convex Optimization.** *International Conference of Machine Learning (ICML)*, 2018.

[C.14] Y. Xu, M. Liu, T. Yang, and Q. Lin. **ADMM without a Fixed Penalty Parameter: Faster Convergence with New Adaptive Penalization.** *Neural Information Processing Systems (NIPS)*, 2017.

[C.13] Y. Xu, Q. Lin and T. Yang. **Adaptive SVRG Methods under Error Bound Conditions with Unknown Growth Parameter**. *Neural Information Processing Systems (NIPS)*, 2017.

[C.12] T. Yang, Q. Lin and L. Zhang. **A Richer Theory of Convex Constrained Optimization with Reduced Projections and Improved Rates**. *International Conference of Machine (ICML)*, 2017.

[C.11] Y. Xu, Q. Lin and T. Yang. **Stochastic Convex Optimization: Faster Local Growth Implies Faster Global Convergence.** *International Conference of Machine Learning (ICML)*, 2017.

[C.10] M. T. Lash, Q. Lin, W. Street, J. Robinson and J. Ohlmann, **Generalized Inverse Classification,** *SIAM International Conference on Data Mining (SDM), 2017*.

[C.9] Y. Xu, Y. Yan, Q. Lin and T. Yang. **Homotopy Smoothing for Non-Smooth Problems with Lower Complexity than O(1/ϵ).** *Neural Information Processing Systems (NIPS)*, 2016.

[C.8] J. Chen, T. Yang, L. Zhang, Q. Lin and Y. Chang. **Optimal Stochastic Strongly Convex Optimization with a Logarithmic Number of Projections.** *Uncertainty in Artificial Intelligence (UAI)*, 2016.

[C.7] Q. Lin, Z. Lu and L. Xiao. **An Accelerated Proximal Coordinate Gradient Method.** *Neural Information Processing Systems (NIPS)*, 2014.

[C.6] Q. Lin and L. Xiao. **An Adaptive Accelerated Proximal Gradient Method and its Homotopy Continuation for Sparse Optimization.** *International Conference of Machine Learning (ICML)*, 2014.

[C.5] X. Chen, Q. Lin and D. Zhou. **Optimistic Knowledge Gradient Policy for Optimal Budget Allocation in Crowdsourcing.** *International Conference of Machine Learning (ICML)*, 2013.

[C.4] X. Chen, Q. Lin and J. Peña. **Optimal Regularized Dual Averaging Methods for Stochastic Optimization.** *Neural Information Processing Systems (NIPS)*, 2012.

[C.3] X. Chen, Q. Lin, S. Kim, J. Carbonell and E. Xing. **Smoothing Proximal Gradient Methods for General Structured Sparse Learning.** *Uncertainty in Artificial Intelligence (UAI)*, 2011.

[C.2] X. Chen, Y. Qi, B. Bai, Q. Lin and J. Carbonell. **Sparse Latent Semantic Analysis.** *SIAM International Conference on Data Mining (SDM)*, 2011.

[C.1] X. Chen, Y. Qi, B., Q. Lin and J. Carbonell. **Learning Preferences using Millions of Parameters by Enforcing Sparsity**. *IEEE International Conference on Data Mining (ICDM)*, 2010.

MANUSCRIPTS UNDER REVIEW OR REVISION

[M.5] Q. Qi, Q. Hu, Q. Lin and T. Yang. **Provable Optimization for Adversarial Fair Self-supervised Contrastive Learning,** 2024. arXiv:2406.05686. Under review in *Neural Information Processing Systems (NeurIPS).*

[M.4] Y. Yao, Q. Lin and T. Yang. **Deterministic and Stochastic Accelerated Gradient Method for Convex Semi-Infinite Optimization**, 2023**.** arXiv:2310.10993. In preparetion for submission.

[M.3] Y. Huang, Q. Lin, S. Baek and N. Street. **Federated Learning on Adaptively Weighted Nodes by Bilevel Optimization,** 2023. arXiv:2207.10751. Under revision for resubmission.

[M.2] Q. Lin, R. Ma, S. Nadarajah and N. Soheili. **A Parameter-free and Projection-free Restarting Level Set Method for Adaptive Constrained Convex Optimization Under the Error Bound Condition,** 2024. Under review in *Journal of Machine Learning Research*.

[M.1] W. Liu, Q. Lin and Y. Xu. **First-order Methods for Affinely Constrained Composite Non-convex, Non-smooth Problems: Lower Complexity Bound and Near-optimal Methods**, 2023. Under review in *Mathematics of Operations Research*.

GRANTS

- **Co-PI,** *FAI: Advancing Optimization for Threshold-Agnostic Fair AI Systems*, National Science Foundation (NSF) and Amazon, Grant Number 2147253, $800,000, 08/2022-07/2025.
- **PI,** *Advance Health Equity by Fairness-Aware Machine Learning: An Optimization-based Approach with Threshold-Agnostic Fairness Constraints*, Jumpstarting Tomorrow Program, University of Iowa, $24,382, 04/2022-03/2023.
- **Co-I**, *ImagiQ: Asynchronous and Decentralized Federated Learning for Medical Imaging*, National Science Foundation (NSF), Grant Number 2040532, $999770, 09/2020-05/2022.

COURSES TAUGHT

- **Quantitative Finance and Deep Learning** (*Course co-developer*. Master of Business Analytics and Master of Finance, Spring 2021, Spring 2022; taught jointly with Tong Yao; University of Iowa)
- **Data Programming in R** (Master of Business Analytics, Fall 2019, Spring 2022, Spring 2023; University of Iowa)
- **Business Analytics** (MBA, Spring 2014; Master of Business Analytics, Fall 2014; University of

Iowa)

- **Advanced Analytics** (MBA, Fall 2013, Fall 2014, Fall 2015, Fall 2017, Fall 2018; Master of Business Analytics, Spring 2015, Spring 2016, Spring 2020, Spring 2024; University of Iowa)
- **Text Analytics** (*Course developer*. Master of Business Analytics, Fall 2015, Fall 2016, Fall 2017, Spring 2019, Spring 2021, Fall 2021, Summer 2022, Fall 2022, Fall 2023, Spring 2024; University of Iowa)
- **Analytics Experience** (Master of Business Analytics, Spring 2017, Spring 2018; University of Iowa)
- **Management Science Topics: Convex Analysis and Optimization** (Ph.D. course, Spring 2017, Spring 2019; University of Iowa)
- **Logistics and Supply Chain Management** (Business Undergraduate, Spring 2013; Carnegie Mellon University)
- **Mathematical Models for Consulting** (Business Undergraduate, Summer 2011; Carnegie Mellon University)

MEDIA COVERAGE

- "AI needs regulation to avoid discrimination." *The Gazette*, June 20, 2023.
- "Amazon awards grant to UI researchers to decrease discrimination in AI algorithms." *The Daily Iowan,* April 12, 2022.
- "Amazon, NSF give grant to UI researchers to make algorithms less discriminatory." *Corridor Business Journal*, April 5, 2022.

PRESENTATIONS

- *Primal-Dual First-Order Methods for Convex-Concave Semi-Infinite Programs.* International Symposium on Mathematical Programming (ISMP). Montréal, Québec, July 2024

- *Single-Loop Switching Subgradient Methods for Non-Smooth Weakly Convex Functional Constrained Optimization.* SIAM Conference on Optimization, Seattle, WA, June, 2023.

- *Constrained Optimization Methods for Machine Learning with Fairness Constraints*. Postdoc Seminar, Department of Applied Mathematics and Statistics, Johns Hopkins University, February 2023.

- *Optimization Methods for Machine Learning with AUC-Based Fairness Constraints.* Mathematical Sciences Colloquium, Rensselaer Polytechnic Institute, October 2022.

- *Learning Fair Machine Learning Models with ROC Constraints by Semi-infinite Programing*. INFORMS Annual Meeting, Indianapolis, IN, October 2022.

- *Federated Learning on Adaptively Weighted Nodes by Bilevel Optimization*. The 7th International Conference on Continuous Optimization (ICCOPT) and the Modeling and Optimization: Theory and Applications (MOPTA). Lehigh University, Bethlehem, PA, July 2022.

- *A Fully Adaptive Restarting Level Set Method for Constrained Convex Optimization under Error Bound Conditions.* SIAM Conference on Optimization, Online, July, 2021.

- *First-Order Methods for Convex Constrained Optimization under Error Bound Conditions*. Seminar of Mathematics in Imaging, Data and Optimization, Department of Mathematical Science, Rensselaer Polytechnic Institute, 2021.

- *First-order Methods For Min-max Non-convex Optimization*. The 6th International Conference on Continuous Optimization. Berlin, Germany, 2019.

- *First-order Methods For Min-max Non-convex Optimization*. INFORMS Annual Meeting, Phoenix, AZ, November, 2018.

- *Level-Set Methods for Expecation Constrained Optimization.*18th Annual MOPTA, Lehigh University, Bethlehem, PA, August, 2018.

- *Level-Set Methods for Finite-Sum Constrained Convex Optimization.* The 23nd International Symposium on Mathematical Programming (ISMP). Bordeaux, France, July 2018.

- *Smoothing First-order Method for Piecewise Linear Non-convex Optimization*. INFORMS Optimization Society Conference. Denver, CO. March, 2018.

- *A Stochastic Level Set Method for Convex Optimization with Expectation Constraints.* INFORMS Optimization Society Conference. Denver, CO. March, 2018.

- *Progress on Stochastic Variance-Reduced Methods in Machine Learning: Adaptive Restart and Distributed Optimization*. Data Science Seminar of Institute for Mathematics and its Applications Minneapolis, MN. December, 2017.

- *Searching in the Dark: Practical SVRG Methods under Error Bound Conditions with Guarantee*. INFORMS Annual Meeting, INFORMS, Houston, TX. October, 2017.

- *Searching in the Dark: Practical SVRG Methods under Error Bound Conditions with Guarantee*. 17th Annual MOPTA, Lehigh University, Bethlehem, PA. August, 2017.

- *Restarted SGD: Beating SGD without Smoothness and/or Strong Convexity*. SIAM Conference on Optimizaiton,Vancouver, Canada, May, 2017.

- *Homotopy Smoothing for Non-Smooth Problems with Lower Complexity than $O(1/\epsilon)$.* INFORMS Annual Meeting, Nashville, Tennessee, November, 2016.

- *Distributed Stochastic Variance Reduced Gradient Methods and A Lower Bound for Communication Complexity.* The 5th International Conference on Continuous Optimization, Tokyo, Japan, August, 2016.

- *Distributed Stochastic Variance Reduced Gradient Methods and A Lower Bound for Communication Complexity.* INFORMS Conference of Optimization, Princeton, PA, March 2016.

- *Bayesian Decision Process for Cost-Efficient Dynamic Ranking by Crowdsourcing.* School of Systems and Enterprises, Stevens Institute of Technology, NJ, March 2016.

- *Bayesian Decision Process for Cost-Efficient Dynamic Ranking by Crowdsourcing.* INFORMS Annual Meeting, Philadelphia, PA, November 2015.

- *Optimal Budget Allocation for Online Crowdsourcing.* Department of Information and Decision Sciences, University of Illinois at Chicago, September 2015.

- *Distributed Stochastic Variance Reduced Gradient Methods.* 15th Annual MOPTA Conference, Bethlehem, PA, July 2015.

- *Doubly Stochastic Primal-Dual Coordinate Method for Regularized Empirical Risk Minimization with Factorized Data.* The 22nd International Symposium on Mathematical Programming. Pittsburgh, PA, July 2015.

- *Big Data Analytics: Optimization and Randomization*, Proceedings of the 21th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Sydney, Australia, August 2015.

- *An Accelerated Proximal Coordinate Gradient Method and its Application to Regularized Empirical Risk Minimization,* INFORMS Annual Meeting, San Francisco, CA, November 2014.

- *An Accelerated Proximal Coordinate Gradient Method and its Application to Regularized Empirical Risk Minimization*, 14th Annual MOPTA Conference, Bethlehem, PA, August 2014.

- *Accelerated Proximal-Gradient Homotopy Method for the Sparse Least-Squares*, International Conference of Machine Learning, Beijing, China, July 2014.

- *Accelerated Proximal-Gradient Homotopy Method for the Sparse Least-Squares*, SIAM Conference on Optimization, San Diego, CA, May 2014.

- *Optimal Trade Execution with Coherent Dynamic Risk Measures using Limit Orders*, American Mathematical Society Sectional Meetings, Albuquerque, NM, April 2014.

- *Optimal Trade Execution with Coherent Dynamic Risk Measures using Limit Orders*, INFORMS Annual Meeting, Minneapolis, MN, USA, October 2013.

- *Optimal Trade Execution with Coherent Dynamic Risk Measures using Limit Orders*, 5th Annual Modeling High Frequency Data in Finance Conference, Hoboken, NJ, October 2013.

- *Optimistic Knowledge Gradient Policy for Budget Allocation in Crowdsourcing*, International Conference of Machine Learning, Atlanta, GA, USA, June 2013.

- *Optimization for Big Data Analysis: Complexity and Scalability*, Tippie College of Business, University of Iowa, Iowa City, IA, USA, February 2013

- *Optimistic Knowledge Gradient Policy for Budget Allocation in Crowdsourcing*, INFORMS Computing Society Conference, Santa Fe, NM, USA, January 2013.

- *Accelerated Proximal-Gradient Homotopy Method for the Sparse Least-Squares*, INFORMS Annual Meeting, Phoenix, AZ, USA, October 2012.

- *Optimal Trade Execution with Coherent Dynamic Risk Measures*, INFORMS Annual Meeting, Phoenix, AZ, USA, October 2012.

- *Optimal Trade Execution with Coherent Dynamic Risk Measures*, 12th Annual MOPTA Conference, Bethlehem, PA, USA, August 2012

- *Optimal Trade Execution with Coherent Dynamic Risk Measures*, 21st International Symposium on Mathematical Programming (ISMP), Berlin, Germany, August 2012.

- *Optimal Trade Execution with Coherent Dynamic Risk Measures*, SIAM Conference on Financial Mathematics and Engineering, Minneapolis, MN, USA, July 2012.

- *A Sparsity Preserving Stochastic Gradient Method for Composite Optimization*, INFORMS Annual Meeting, Charlotte, NC, USA, November 2011.

- *Optimal Trade Execution with Coherent Dynamic Risk Measures*, Industrial-Academic Workshop on Optimization in Finance and Risk Management Toronto, Canada, October 2011.

- *A Sparsity Preserving Stochastic Gradient Method for Composite Optimization*, 11th Annual MOPTA Conference, Bethlehem, PA, USA, August 2011.

- *A Sparsity Preserving Stochastic Gradient Method for Composite Optimization*, SIAM Conference on Optimization, Darmstadt, Germany, May 2011

PROFESSIONAL SERVICE

- Faculty director of part-time MSBA program, University of Iowa **2023-Present**
- Faculty director of full-time MSBA program, University of Iowa **2023-2024**
- Master's program advisory committee, Business Analytics Department, University of Iowa **2023-Present**
- Committee member, INFORMS George Nicholson Student Paper Competition **2021, 2022**
- Reviewer, INFORMS JFIG Paper Competition **2020, 2021, 2023**
- Area chair, International Conference on Machine Learning (ICML) **2023**
- Area chair, Neural Information Processing Systems (NeurIPS) **2021-2024**
- Area chair, International Conference on Learning Representations (ICLR) **2024**
- PhD program committee, Business Analytics Department, University of Iowa **2019-2020**
- Organization committee member of MSBA program, University of Iowa. **2014-2015**
- Research committee, Tippie College of Business, University of Iowa **2019**
- Research committee, Business Analytics Department, University of Iowa **2022**
- Faculty search committee member, Business Analytics Department, University of Iowa **2015, 2022, 2023**
- Seminar committee, Business Analytics Department, University of Iowa **2013, 2018, 2022**
- Co-Organizer of ICML ’13 Workshop: Machine Learning Meets Crowdsourcing, Atlanta, GA. **2013**

CONFERENCE SESSION CHAIR

- *INFORMS Annual Meeting*, Phoenix, AZ, 2023
- *SIAM Conference on Optimization*, Seattle, WA, May, 2023
- *7th International Conference on Continuous Optimization*, Bethlehem, PA, 2022
- *6th International Conference on Continuous Optimization*, Berlin, Germany, 2019
- *INFORMS Annual Meeting*, Phoenix, AZ, November, 2018
- *International Symposium on Mathematical Programming*, Bordeaux, France, July, 2018
- *INFORMS Optimization Society Conference*, Denver, CO, March, 2018
- *INFORMS Annual Meeting*, Houston, TX, October, 2017

- *SIAM Conference on Optimization*, Vancouver, Canada, May, 2017
- *INFORMS Annual Meeting*, Nashville, TN, 2016
- 5th International Conference on Continuous Optimization, Tokyo, Japan, 2016
- *INFORMS Conference on Optimization*, Princeton, PA, 2016
- *INFORMS Annual Meeting*, Philadelphia, PA, 2015
- *15th Annual MOPTA Conference*, Bethlehem, PA, 2015
- *International Symposium on Mathematical Programming*, Pittsburgh, PA, 2015
- *14th Annual MOPTA Conference*, Bethlehem, PA, 2014
- *INFORMS Annual Meeting*, San Francisco, CA, 2014
- *INFORMS Annual Meeting*, Minneapolis, MN, 2013
- *12th Annual MOPTA Conference*, Bethlehem, PA, 2012
- *INFORMS Annual Meeting*, Phoenix, AZ, 2012
- *International Symposium on Mathematical Programming*, Berlin, Germany, 2012
- *11th Annual MOPTA Conference*, Bethlehem, PA, 2011
- *INFORMS Annual Meeting*, Charlotte, NC, 2011
- *SIAM Conference on Optimization*, Darmstadt, Germany, 2011

PHD STUDENTS SUPERVISED

- **Yankun Huang,** 2024, Business Analytics, University of Iowa
- **Yao Yao,** 2024, Applied Mathematical and Computational Sciences, University of Iowa
- **Runchao Ma,** 2021, Business Analytics, University of Iowa
- **Hassan Rafique,** 2020, Applied Mathematical and Computational Sciences, University of Iowa

PHD COMMITTEES

- **Jingchao Gao,** 2024, Applied Mathematical and Computational Sciences, University of Iowa
- **JunhoYoon,** 2024, Business Analytics, University of Iowa
- **Qi Qi,** 2023, Computer Sciences, University of Iowa
- **Sadjad Anzabi Zadeh,** 2023, Business Analytics, University of Iowa
- **Tengjis Shu,** 2023, Finance, University of Iowa
- **Dat Hong,** 2023, Computer Sciences, University of Iowa
- **Dixian Zhu,** 2023, Computer Sciences, University of Iowa
- **Kyungchan Park**, 2022, Business Analytics, University of Iowa
- **Jirong Yi**, 2021, Electrical and Computer Engineering, University of Iowa
- **Mingrui Liu**, 2020, Computer Sciences, University of Iowa
- **Yi Xu**, 2019, Computer Sciences, University of Iowa
- **Zhe Li**, 2018, Computer Sciences, University of Iowa
- **Michael Lash,** 2018, Computer Sciences, University of Iowa
- **Myung Cho**, 2017, Electrical and Computer Engineering, University of Iowa
- **Xi Chen**, 2016, Management Sciences, University of Iowa
- **Huan Jin**, 2016, Management Sciences, University of Iowa
- **Guanglin Xu,** 2016, Management Sciences, University of Iowa
- **Senay Yasar Saglam**, 2015, Management Sciences, University of Iowa

REFEREE WORK

- SIAM Journal on Optimization
- International Conference of Machine Learning
- Neural Information Processing Systems

- Journal of Machine Learning Research
- Operations Research
- Information Systems Research
- Mathematics of Operations Research
- Management Science
- Mathematical Programming
- Other journals and conference proceedings

MEMBERSHIPS

- Institute For Operations Research and the Management Sciences (INFORMS)
- Society for Industrial and Applied Mathematics (SIAM)
- Mathematical Optimization Society (MOS)