Parinaz Naghizadeh

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Education

Ph.D., Electrical Engineering, University of Michigan — August 2016
Advisor: Mingyan Liu
Ph.D. thesis: "On the Provision of Public Goods on Networks: Incentives, Exit Equilibrium, and Applications to Cyber Security"

M.Sc., Mathematics, University of Michigan — May 2014

M.Sc., Electrical Engineering, University of Michigan — May 2013

B.Sc., Electrical Engineering, Sharif University of Technology, Iran — June 2010

Appointments

University of California, San Diego — Jul. 2023 - present
Assistant Professor, Electrical and Computer Engineering & The Design Lab

Ohio State University — Sep. 2019 - Jun. 2023
Assistant Professor, Operations Research, Integrated Systems Engineering
Assistant Professor, Electrical and Computer Engineering

Purdue University and Princeton University Edge Lab — Sep. 2017 - Aug. 2019
Postdoctoral Research Associate, College of Engineering
Advisor: Mung Chiang

University of Michigan — Sep. 2016 - Aug. 2017
Postdoctoral Research Fellow, Electrical Engineering and Computer Science
Advisor: Mingyan Liu

Honors and Awards

- Outstanding Mentor Award, Undergraduate Research Hub, UC San Diego — 2025
- Chancellor's Interdisciplinary Team Catalyst Award, UC San Diego — 2024
- JSoE Early Career Faculty Development Award, UC San Diego — 2024
- Outstanding ISE Faculty Member, voted by ISE class of 2023, Ohio State University — 2023
- Misinec/Hodun Faculty Award, College of Engineering, Ohio State University — 2022
- **NSF CAREER Award** — 2022
- Ethics Circle Fellow, Center for Ethics and Human Values, Ohio State University — 2021
- **Rising Stars in EECS**, Stanford University — 2017

- Honorable Mention, Richard and Eleanor Towner prize for outstanding Ph.D. research, University of Michigan 2015
- **Barbour Scholarship**, University of Michigan 2014
- President's Award, Sharif University of Technology 2006
- Ranked 14^{th} among 350,000 participants in Iran's Physics and Mathematics Nation-wide Universities' Entrance Exam 2006

Grant Support

- PI. *"Fair Federated Learning from Heterogeneous and Biased Clients"*
  Cisco Research, $120,000. 2023 - 2025

- PI. *"CAREER: Decision Making, Learning, and Incentive Design in Multilayer Networks"*
  National Science Foundation (NSF), $550,000. 2022 - 2027

- OSU/UCSD PI. *"FW-HTF-R: Future of Construction Workplace Health Monitoring"*
  with Houtan Jebelli (PSU/UIUC, lead), Huanyu Cheng (PSU), Jennifer Graham-Engeland (PSU), Mehdi Kiani (PSU), John Messner (PSU), Mahdi Khalili (U. Delaware/OSU)
  National Science Foundation (NSF), $180,499 (of $1.8M total). 2022 - 2026

- PI. *"Data Diversity and Debiasing through Exploration and Fairness"*
  Cisco Research, $120,067. 2022

- OSU/UCSD PI. *"FAI: Fairness in Machine Learning with Human in the Loop"*
  with Yang Liu (UCSC, lead), Mingyan Liu (Michigan), Ming Yin (Purdue)
  National Science Foundation (NSF) and Amazon, $240,000 (of $1M total). 2021 - 2024

- Internal awards at UCSD:
  - Co-PI. *"Bridging Expertise: Catalyzing AI & ML for Equity, Education, and Knowledge Mobilization"*
    with Alan Daly (PI)
    UCSD Chancellor's Interdisciplinary Team Catalyst Award. $73,700. 2024 - 2026
  - PI. *"Explainable Machine Learning: Survey experiments and experiment informed theories"*
    with Kristen Vaccaro
    Jacobs School of Engineering Early Career Faculty Development award. $50,000. 2024

- Internal awards at OSU:
  - Co-PI, *"Communicating Resource Management and Environmental Policy Making Through the Lens of an Interactive Real-Time Strategy (RTS) Game"*
    with Scott Swearingen (PI), Kyoung Swearingen.
    AI in the Arts, Humanities, and Engineering award. $5k (of $25k total). 2023

Research Keywords

Network economics; game theory; ethics and economics of AI; reinforcement learning; economics of cyber security.

Publications

(my students are marked with a †)

Submitted and Working Papers:

[S1] Y. Liao†, F. Koushanfar, P. Naghizadeh. "Learning for Dynamic Combinatorial Optimization without Training Data", 2025.

[S2] Y. Yang†, A. Payani, P. Naghizadeh. "Friends in Unexpected Places: Enhancing Local Fairness in Federated Learning through Clustering", 2025.

[S3] S. Alhanouti†, P. Naghizadeh. "Anticipating Gaming to Incentivize Improvement: Guiding Agents in (Fair) Strategic Classification". 2025.

[S4] Y. Yang†, A. Payani, P. Naghizadeh. "Generalization Error Bounds for Learning under Censored Feedback". 2025.

[S5] Md. F. Alam, P. Naghizadeh, D. Hoelzle. "An Advantage Based Policy Transfer Algorithm for Reinforcement Learning with Metrics of Transferability", 2024.

Journal Papers:

[J1] Y. Yang†, Y. Liu, P. Naghizadeh. "Adaptive Bounded Exploration and Intermediate Actions for Data Debiasing", *INFORMS Journal on Computing, Special Issue on Responsible AI and Data Science for Social Good*, 2025.

[J2] R. Ebrahimi†, P. Naghizadeh. "United We Fall: On the Nash Equilibria of Multilayer and Multiplex Network Games", *IEEE Transactions on Control of Network Systems*, 2025.

[J3] Z. Huang, P. Naghizadeh, M. Liu. "Interdependent Security Games in the Stackelberg Style: How First-Mover Advantage Impacts Free-Riding and Security (Under-)Investment", *Journal of Cybersecurity*, 10 (1), 2024.

[J4] K. Jin, P. Naghizadeh, M. Liu. "Structured Network Games: Leveraging Relational Information in Equilibrium Analysis", *IEEE Transactions on Network Science and Engineering*, 11 (5): 4836-4849, 2024.

[J5] P. S. Oruganti†, P. Naghizadeh, Q. Ahmed. "Robust Control Barrier Functions for Sampled-Data Systems", *IEEE Control Systems Letters (L-CSS)*, 8: 103-108, 2024.

[J6] P. S. Oruganti†, P. Naghizadeh, Q. Ahmed. "The Impact of Network Design Interventions on the Security of Interdependent Systems", *IEEE Transactions on Control of Network Systems*, 11 (1): 173-184, 2024.

[J7] M. Abdallah, P. Naghizadeh, A. R. Hota, T. Cason, S. Bagchi, S. Sundaram. "Behavioral and Game-Theoretic Security Investments in Interdependent Systems Modeled by Attack Graphs", *IEEE Transactions on Control of Network Systems*, 7 (4): 1585-1596, 2020.

[J8] P. Naghizadeh, M. Liu. "Using Private and Public Assessments in Security Information Sharing Agreements", *IEEE Transactions on Information Forensics and Security*, 15 (1): 1801-1814, 2020.

[J9] D. Ghavidel, P. Naghizadeh, M. Liu, V. Gupta. "A Reputation-Based Contract for Repeated Crowdsensing with Costly Verification", *IEEE Transactions on Signal Processing*, 67 (23): 6092-6104, 2019.

[J10] P. Naghizadeh, M. Liu. "Provision of Public Goods on Networks: On Existence, Uniqueness, and Centralities", *IEEE Transactions on Network Science and Engineering*, 5 (3): 225-236, 2018.

[J11] M. Khalili, P. Naghizadeh, M. Liu. "Designing Cyber Insurance Policies: The Role of Pre-Screening and Security Interdependence". *IEEE Transactions on Information Forensics and Security*, 13 (9): 2226-2239, 2018.

[J12] P. Naghizadeh, M. Liu. "Opting out of Incentive Mechanisms: A Study of Security as a Non-Excludable Public Good", *IEEE Transactions on Information Forensics and Security*, 11 (12): 2790-2803, 2016.

[J13] A. Sarabi, P. Naghizadeh, Y. Liu, M. Liu. "Risky Business: Fine-grained Data Breach Prediction Using Business Profiles", *Journal of Cybersecurity*, 2 (1): 15-28, Oxford University Press, 2016.

[J14] P. Naghizadeh, M. Liu. "Perceptions and Truth: A Mechanism Design Approach to Crowd-Sourcing Reputation", *IEEE/ACM Transactions on Networking*, 24 (1): 163-176, 2016.

Refereed Conference Papers:

[C1] A. Mollabagher†, P. Naghizadeh. "The Feedback Loop in Recommendation Systems with Reactive Agents". *The American Control Conference (ACC'25)*, (to appear) Jul. 2025.

[C2] R. Ebrahimi†, K. Vaccaro, P. Naghizadeh. "The Double-Edged Sword of Behavioral Responses in Strategic Classification: Theory and User Studies". *ACM Conference on Fairness, Accountability, and Transparency (FAccT'25)*, (to appear) Jun. 2025. Acceptance rate: 26.8%

[C3] S. Alhanouti†, P. Naghizadeh. "Could Anticipating Gaming Incentivize Improvement in (Fair) Strategic Classification?" (invited session). *The 63rd IEEE Conference on Decision and Control (CDC'24)*, Dec. 2024.

[C4] R. Ebrahimi†, P. Naghizadeh. "Extended Horizons: Multi-hop Awareness in Network Games". *The 15th Conference on Game Theory and AI for Security (GameSec'24)*, Oct. 2024.

[C5] P. S. Oruganti†, P. Naghizadeh, Q. Ahmed. "Robust Control Barrier Functions for Sampled-Data Systems". *The American Control Conference (ACC'24)*, Jul. 2024.

[C6] R. Ebrahimi†, P. Naghizadeh. "United We Fall: On the Nash Equilibria of Multiplex Network Games". *The 59th Annual Allerton Conference on Communication, Control and Computing (Allerton'23)*, Oct. 2023.

[C7] Z. Huang, P. Naghizadeh, M. Liu. "Interdependent Security Games in the Stackelberg Style: How First-Mover Advantage Impacts Free-Riding and Security (Under-)Investment". *The 22nd Workshop on the Economics of Information Security (WEIS'23)*, Jul. 2023.

[C8] P. S. Oruganti†, P. Naghizadeh, Q. Ahmed. "Safe Control Using High-Order Measurement Robust Control Barrier Functions". *The American Control Conference (ACC'23)*, May 2023.

[C9] Y. Liao†, P. Naghizadeh. "Social Bias Meets Data Bias: The Impacts of Labeling and Measurement Errors on Fairness Criteria". *The 37th AAAI Conference on Artificial Intelligence (AAAI'23)*, Feb. 2023. Acceptance rate: 19.6%.

[C10] Y. Yang†, Y. Liu, P. Naghizadeh. "Adaptive Data Debiasing Through Bounded Exploration". *The Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS'22)*, Dec. 2022. Acceptance rate: 25.6%.

[C11] X. Zheng†, P. Naghizadeh, A. Yener. "DiPLe: Learning Directed Collaboration Graphs for Peer-to-Peer Personalized Learning". *The IEEE Information Theory Workshop (ITW'22)*, Nov. 2022.

[C12] X. Zhang, M. Khalili, K. Jin, P. Naghizadeh, M. Liu. "Fairness Interventions as (Dis)incentives for Strategic Manipulation". *The Thirty-ninth International Conference on Machine Learning (ICML'22)*, Jul. 2022. Acceptance rate: 21.9%.

[C13] K. Jin, X. Zhang, M. Khalili, P. Naghizadeh, M. Liu. "Subsidy Mechanisms for Strategic Classification and Regression Problems". *The ACM Conference on Economics and Computation (EC'22)*, Jul. 2022. Acceptance rate: 27%.

[C14] M. Abdallah, D. Woods, P. Naghizadeh, I. Khalil, T. Cason, S. Sundaram, S. Bagchi. "TASHAROK: Using Mechanism Design for Enhancing Security Resource Allocation in Interdependent Systems". *The IEEE Symposium on Security and Privacy (IEEE S&P'22)*, May 2022. Acceptance rate: 14.0%.

[C15] P. S. Oruganti†, P. Naghizadeh, Q. Ahmed. "The Impact of Network Design Interventions on CPS Security". *The 60th IEEE conference on Decision and Control (CDC'21)*, Dec. 2021.

[C16] M. Abdallah, D. Woods, P. Naghizadeh, I. Khalil, T. Cason, S. Sundaram, S. Bagchi. "Morshed: Guiding Behavioral Decision-Makers towards Better Security Investment in Interdependent Systems". *The 16th ACM Asia Conference on Computer and Communications Security (ASIACCS'21)*, Jun. 2021. Acceptance rate: 18.5%.

[C17] P. Naghizadeh, T. Nguyen, S. Vardi. "The Impacts of Prediction Technologies on Relational Contracts"'. *The 30th Workshop on Information Systems and Economics (WISE'19)*, Dec. 2019.

[C18] M. Abdallah, P. Naghizadeh, T. Cason, S. Bagchi, S. Sundaram. "Protecting Assets with Heterogeneous Valuations under Behavioral Probability Weighting". *The 58th IEEE Conference on Decision and Control (CDC'19)*, Dec. 2019.

[C19] P. Naghizadeh, A. Sinha. "Adversarial Contract Design for Private Data Commercialization". *The ACM Conference on Economics and Computation (EC'19)*, Jun. 2019. Acceptance rate: 27.7%.

[C20] M. Abdallah, P. Naghizadeh, A. R. Hota, T. Cason, S. Bagchi, S. Sundaram. "The Impact of Behavioral Probability Weighting on Security Investments in Interdependent Systems". *The American Control Conference (ACC'19)*, Jul. 2019.

[C21] S. Ahn, M. Gorlatova, P. Naghizadeh, M. Chiang. "Personalized Augmented Reality Via Fog-based Imitation Learning". *The IEEE Workshop on Fog Computing and the IoT (co-located with IEEE CPS-IoT Week)*, Apr. 2019.

[C22] P. Naghizadeh, M. Gorlatova, A. Lan, M. Chiang. "Hurts to Be Too Early: Benefits and Drawbacks of Communication in Multi-Agent Learning". *IEEE INFOCOM'19*, Apr. 2019. Acceptance rate: 19.7%.

[C23] S. Ahn, M. Gorlatova, P. Naghizadeh, M. Chiang, P. Mittal. "Adaptive Fog-Based Output Security for Augmented Reality". *The ACM SIGCOMM VR/AR Network Workshop*, Aug. 2018.

[C24] P. Naghizadeh, M. Liu. "On the Uniqueness and Stability of Equilibria of Network Games". *The 55th Annual Allerton Conference on Communication, Control and Computing (Allerton'17)*, Oct. 2017.

[C25] M. Khalili, P. Naghizadeh, M. Liu. "Embracing Risk Dependency in Designing Cyber-Insurance Contracts". *The 55th Annual Allerton Conference on Communication, Control and Computing (Allerton'17)*, Oct. 2017.

[C26] M. Khalili, P. Naghizadeh, M. Liu. "Designing Cyber Insurance Policies in the Presence of Security Interdependence". *The 12th Workshop on the Economics of Networks, Systems and Computation (NetEcon'17)*, Jun. 2017.

[C27] D. Ghavidel, P. Naghizadeh, M. Liu, V. Gupta. "A Reputation-Based Contract for Repeated Crowdsensing with Costly Verification". *The American Control Conference (ACC'17)*, May 2017.

[C28] M. Khalili, P. Naghizadeh, M. Liu. "Designing Cyber Insurance Policies: Mitigating Moral Hazard Through Security Pre-Screening". *The 7th International Conference on Game Theory for Networks (GameNets'17)*, May 2017.

[C29] P. Naghizadeh, M. Liu. "Exit Equilibrium: Towards Understanding Voluntary Participation in Security Games". *IEEE INFOCOM'16*, Feb. 2016. Acceptance rate: 18.2%.

[C30] P. Naghizadeh, M. Liu. "Provision of Non-Excludable Public Goods on Networks: From Equilibrium to Centrality Measures". *The 53rd Annual Allerton Conference on Communication, Control and Computing (Allerton'15)*, Oct. 2015.

[C31] Y. Liu, A. Sarabi, J. Zhang, P. Naghizadeh, M. Karir, M. Bailey, M. Liu. "Cloudy with a Chance of Breach: Forecasting Cyber Security Incidents". *The 24th USENIX Security Symposium (USENIX'15)*, Aug. 2015. Acceptance rate: 15.7%.

[C32] A. Sarabi, P. Naghizadeh, Y. Liu, M. Liu. "Prioritizing Security Spending: A Quantitative Analysis of Risk Distributions for Different Business Profiles". *The 14th Workshop on the Economics of Information Security (WEIS'15)*, Jun. 2015.

[C33] P. Naghizadeh, M. Liu. "Budget Balance or Voluntary Participation? Incentivizing Investments in Interdependent Security Games". *The 52nd Annual Allerton Conference on Communication, Control and Computing (Allerton'14)*, Oct. 2014.

[C34] A. Sarabi, P. Naghizadeh, M. Liu. "Can Less Be More? A Game-Theoretical Analysis of Investment vs. Filtering". *The 5th Conference on Decision and Game Theory for Security (GameSec'14)*, Nov. 2014.

[C35] P. Naghizadeh, M. Liu. "Voluntary Participation in Cyber-insurance Markets". *The 13th Workshop on the Economics of Information Security (WEIS'14)*, Jun. 2014.

[C36] P. Naghizadeh, M. Liu. "Establishing Network Reputation via Mechanism Design". *The 3rd International Conference on Game Theory for Networks (GameNets'12)*, May 2012.

Lightly Refereed Workshop Papers:

[W1] K. Lin†, P. Naghizadeh. "MultiRepast4py: A Framework for Agent Based Simulations on Multilayer Networks". *The 26th International Workshop on Multi-Agent-Based Simulation (at AAMAS'25)*, May 2025.

[W2] R. Ebrahimi†, K. Vaccaro, P. Naghizadeh. "The Double-Edged Sword of Behavioral Responses in Strategic Classification". (Spotlight Talk) *NeurIPS workshop on Behavioral Machine Learning*, Dec. 2024.

[W3] Y. Yang†, Y. Liu, P. Naghizadeh. "Adaptive Data Debiasing Through Bounded Exploration". *ICML Workshop on Responsible Decision Making in Dynamic Environments*, Jul. 2022.

[W4] Y. Liao†, P. Naghizadeh. "The Impacts of Labeling Biases on Fairness Criteria". *ICLR Workshop on Socially Responsible Machine Learning (ICLR SRML'22)*, Apr. 2022.

[W5] K. Jin, X. Zhang, M. Khalili, P. Naghizadeh, and M. Liu. "Incentive Mechanisms in Strategic Learning". *ICLR Workshop on Socially Responsible Machine Learning (ICLR SRML'22)*, Apr. 2022.

[W6] P. Naghizadeh, M. Liu. "Inter-Temporal Incentives in Security Information Sharing Agreements" (position paper). *AAAI Workshop on Artificial Intelligence for Cyber Security (AAAI AICS'16)*, Feb. 2016.

Non-refereed Publications and Pre-Prints:

[P1] P. Naghizadeh, C. Joe-Wong, M. Chiang. "Paid Prioritization with Content Competition", *arXiv preprint arXiv:2007.14574*, 2020.

[P2] S. Chaterji, P. Naghizadeh, M.A. Alam, S. Bagchi, M. Chiang, D. Corman, B. Henz, S. Jana, N. Li, S. Mou, M. Oishi, C. Peng, T. Rompf, A. Sabharwal, S. Sundaram, J. Weimer, J. Weller. "Resilient Cyberphysical Systems and their Application Drivers: A Technology Roadmap", *arXiv preprint arXiv:2001.00090*, 2020.

[P3] P. Naghizadeh, M. Liu. "Inter-Temporal Incentives in Security Information Sharing Agreements", *Information Theory and Applications Workshop (ITA'16)*, Feb. 2016.

[P4] P. Naghizadeh, M. Liu. "Closing the Price of Anarchy Gap in the Interdependent Security Game", *Information Theory and Applications Workshop (ITA'14)*, Feb. 2014.

[P5] P. Naghizadeh, M. Liu. "Incentives, Quality, and Risks: A Look into the NSF Proposal Review Pilot", *arXiv preprint arXiv:1307.6528*, 2013.

Patents:

[pPt1] M. Liu, P. Naghizadeh. "Systems and Methods for Mitigating Cybersecurity Risks of Interdependent Entities", *U.S. Provisional Patent Application No. 63/427,547*, 2022.

Boardgames:

[BG1] T. Ellsworth, R. Ebrahimi†, D. Gingerich, P. Naghizadeh, K. Swearingen, S. Swearingen. "Green Acres: Communicating Land Management Practices and Environmental Policy Making Through the Lens of a Collaborative Multiplayer Game". *Origins Game Fair, Columbus, OH*, Jun. 2024.

Teaching Experience

University of California, San Diego

Student evaluation of teaching (SET) for "Question 9: The instructor incorporated teaching methods that helped me learn."

- **ECE 250: Random Processes** Fall 2024
  Graduate course on random processes.
  Fall 2024: enrollment: 70, SET response rate: 40%, SET: 4.59/5.

- **ECE 153: Probability and Random Processes for Engineers** Spring 2024 - 2025
  Upper-level undergraduate course on advanced probability and introductory random processes.
  Spring 2024: enrollment: 64, SET response rate: 34%, SET: 4.41/5.
  Spring 2025: enrollment: 66.

Ohio State University

Student evaluation of instruction (SEI) for "Question 10: Overall, I would rate this instructor as".

- **ECE/ISE 7202: Reinforcement Learning** Autumn 2020 – 2022
  New graduate course I developed and taught.
  Autumn 2020: enrollment: 25, SEI response rate: 68%, SEI: 5.00/5.
  Autumn 2021: enrollment: 32, SEI response rate: 72%, SEI: 4.82/5.
  Autumn 2022: enrollment: 79, SEI response rate: 62%, SEI: 4.88/5.

- **ISE 7200: Advanced Nonlinear Optimization** Spring 2020 – 2022
  Graduate course for first-year Ph.D. and advanced M.Sc. students.
  Spring 2020: enrollment: 13, SEI response rate: 69%, SEI: 4.89/5.
  Spring 2021: enrollment: 16, SEI response rate: 56%, SEI: 4.78/5.
  Spring 2022: enrollment: 16, SEI response rate: 47%, SEI: 5.00/5.

- **ISE 4100: Stochastic Modeling and Simulation** Autumn 2020, 2022
  Senior-level course on introductory stochastic modeling and discrete-event system simulation.
  Autumn 2020: enrollment: 72, SEI response rate: 75%, SEI: 4.85/5.
  Autumn 2022: enrollment: 81, SEI response rate: 48%, SEI: 4.67/5.

University of Michigan

- EECS 401: Probabilistic Methods in Engineering (*Graduate Student Instructor*) Fall 2012

Advising Experience

Current Ph.D. Students:

- Sura Alhanouti, ISE, OSU — Fall 2021 - present
- Atefeh Mollabagher, ECE, UCSD — Fall 2023 - present
- Yiqiao Liao, ECE, UCSD — Fall 2024 - present
- Luca Hartmann, ECE, UCSD — Spring 2025 - present

Current M.Sc. and B.Sc. Students:

- Shravi Jain, B.Sc. CSE, UCSD — Summer 2024 - present
- Maitrayee Keskar, M.Sc. ECE, UCSD — Winter 2025 - present

Past Ph.D. Students:

- Yifan Yang, ISE, OSU — Spring 2020 - Spring 2025
  Ph.D. thesis: Accurate and Fair Decision Making from Biased and Distributed Datasets.
  Next: Research & Development Analyst III at GEICO.
- Pradeep Sharma Oruganti, MAE, OSU — Autumn 2021 - Spring 2023
  (co-advised with Qadeer Ahmed)
  Ph.D. thesis: Safety and Security Assurance for Automotive Systems.
  Next: Cruise.

Past M.Sc. Students:

- Raman Ebrahimi, M.Sc. ECE, UCSD — Fall 2022 - Spring 2025
  M.Sc. research: From Games to Predictions: Strategic Behavior in Networks and Classification.
- Altan Turkoglu, M.Sc. ECE, OSU — Spring 2022 - Spring 2023
  M.Sc. thesis: Multi-Agent Reinforcement Learning and Information Sharing.
  Next: M.D./Ph.D. at OSU.
- Abhishek Vijaykumar, M.Sc. ECE, OSU — Summer 2021 - Spring 2022
  M.Sc. project: Recursive A-Scores: A Framework for Algorithmically Fair Feature Selection.
  Next: Micron Technology.
- Xue Zheng, M.Sc. ECE, OSU — Spring 2021 - Autumn 2021
  M.Sc. thesis: Learning Directed Collaboration Graphs for Peer-to-Peer Personalized Learning.
  Next: Ph.D. at OSU ECE.

Past B.Sc. and B.Sc./M.Sc. Students:

- Keng-Lien (Roger) Lin, ECE B.Sc., UCSD — Spring 2024 - Spring 2025
- Ruey-An Shiu, exchange program CSE B.Sc., UCSD — Fall 2024
- Jean Gorby Calicdan, ECE B.Sc./M.Sc., UCSD — Summer 2024 - Winter 2025
- Taiki Yoshino, CSE B.Sc., UCSD — Winter 2024 - Winter 2025
- Ishika Gupta, B.Sc. ECE, OSU — Summer 2023

- Ian Thompson, B.Sc. ECE, OSU — Summer 2022 - Spring 2023
- Jiaqi Xu, B.Sc. CSE, OSU — Summer 2022 - Spring 2023
- Yiqiao Liao, B.Sc. CSE, OSU — Summer 2021 - Summer 2022
- Katherine Lovelace, B.Sc. Math and African American and African Studies, OSU — Summer 2022
- McKenna Hollinger, B.Sc. ECE, OSU — Spring 2022
- Adam Wang, B.Sc. ISE, OSU — Autumn 2021 - Spring 2022
- Abby Nichter, B.Sc. ECE, OSU — Summer 2021 - Spring 2022
- Russell Zhu, B.Sc. CSE, OSU — Summer 2021
- Jessica Griffin, B.Sc./M.Sc. ISE, OSU — Summer 2021
- Mingwei Qiu, B.Sc. CSE, OSU — Summer 2021

Past High School Students:

- Armela Hasanbelli, Metro High School, Columbus, OH — Spring 2023
- Shahid Maniar, Metro High School, Columbus, OH — Spring 2023

Ph.D. Defense Committee Member:

- Jessica De Souza, ECE, UCSD (Advisor: Edward Wang) — 2025
- Varun Viswanath, ECE, UCSD (Advisor: Edward Wang) — 2024
- Mohammad Neinavaei, ECE, OSU (Advisor: Zak Kassas) — 2023
- Haibo Yang, ECE, OSU (Advisor: Jia Liu) — 2023
- Ferdous Alam, MAE, OSU (Advisor: David Hoelzle) — 2023
- Tong Zhao, MAE, OSU (Advisor: Giorgio Rizzoni) — 2022
- Gonzalo Constante Flores, ECE, OSU (Advisor: Antonio Conejo) — 2022
- Shiping Shao, ECE, OSU (Advisor: Abhishek Gupta) — 2022
- Hao Li, ECE, OSU (Advisors: Wei Zhang and Abhishek Gupta) — 2021
- Mohammad Mahdi Khalili, EECS, University of Michigan (Advisor: Mingyan Liu) — 2019

Ph.D. Candidacy Exam Committee Member:

- Ziyuan Huang, ECE, University of Michigan (Advisor: Mingyan Liu) — 2025
- Giulia Milan, ECE, UCSD (Advisor: Vikash Gilja) — 2025
- Varun Viswanath, ECE, UCSD (Advisor: Edward Wang) — 2024
- Mubarak Al-Mubarak, ECE, OSU (Advisor: Antonio Conejo) — 2023
- Mohammad Neinavaei, ECE, OSU (Advisor: Zak Kassas) — 2023
- Yuci Han, ECE, OSU (Advisor: Alper Yilmaz) — 2023
- Jiayu Pan, ECE, OSU (Advisors: Ness Shroff and Yin Sun) — 2023
- Zhuqing Liu, ECE, OSU (Advisor: Jia Liu) — 2022
- Liping Li, ISE, OSU (Advisor: Ramteen Sioshansi) — 2022
- Guillermo Castillo Martinez, ECE, OSU (Advisor: Ayonga Hereid) — 2022

- Haibo Yang, ECE, OSU (Advisor: Jia Liu) 2022
- Linda Capito Ruiz, ECE, OSU (Advisor: Keith Redmill) 2022
- Ferdous Alam, MAE, OSU (Advisor: David Hoelzle) 2021
- Pradeep Sharma Oruganti, MAE, OSU (Advisor: Qadeer Ahmed) 2021
- Shiping Shao, ECE, OSU (Advisor: Abhishek Gupta) 2021
- Jayanth Regatti, ECE, OSU (Advisor: Abhishek Gupta) 2021
- Hao Li, ECE, OSU (Advisors: Wei Zhang and Abhishek Gupta) 2020
- Tong Zhao, MAE, OSU (Advisor: Giorgio Rizzoni) 2020

M.Sc. and B.Sc. Thesis Committee Member:

- Arash Behravesh, M.Sc., ECE, UCSD (Advisor: Behrouz Touri) 2025
- Jiaqi Xu, B.Sc., CSE, OSU (Advisor: Andrew Perrault) 2023
- Akarsh Konaje, M.Sc., MAE, OSU (Advisor: Qadeer Ahmed) 2023
- Rachel Hunter-Rinderle, M.Sc., ISE, OSU (Advisor: Ramteen Sioshansi) 2021
- Tengmu Hu, M.Sc., Math, OSU (Advisor: Chunsheng Ban) 2020
- Jianzong Pi, B.Sc., ECE, OSU (Advisor: Abhishek Gupta) 2020

Invited Talks

[T1] "Ethics and Economics of AI: The Impacts of Data Biases and Human in the Loop", *Southern Denmark University Center for Learning Computational Thinking (virtual)*, Mar. 2025.

[T2] "On the Nash Equilibria of Multiplex and Multilayer Network Games", *Information Theory and Applications Workshop (ITA), UCSD*, Feb. 2024.

[T3] "Impacts of Different Information Sharing Modalities in Multi-Agent Reinforcement Learning", *INFORMS 2023 Annual Meeting, Learning in Games and Applications Invited Session*, Nov. 2023.

[T4] "(Fair) ML with Human in the Loop: Strategic Behavior and Incentive Design", *The 9th Midwest Control and Game Theory Workshop, UMN*, Apr. 2023.

[T5] "Adaptive Data Debiasing Through Bounded Exploration", *Information Theory and Applications Workshop (ITA), UCSD*, Feb. 2023.

[T6] "Social Bias Meets Data Bias: Biased Training Data and Fair AI", *Machine Learning Seminar, Vanderbilt University (virtual)*, Jan. 2023.

[T7] "Social Bias Meets Data Bias: Biased Training Data and Fair AI", *TDAI Responsible Data Science Connections, OSU*, Dec. 2022.

[T8] "A Hybrid Employment Model for a Freight Sharing Economy", *INFORMS 2022 Annual Meeting, Managing Ride-Hailing Platforms Invited Session*, Nov. 2022.

[T9] "Social Bias Meets Data Bias: Biased Training Data and Fair AI", *Cisco Research Responsible AI summit (virtual)*, Sep. 2022.

[T10] "The Impacts of Labeling and Measurement Errors on Fairness Criteria", *Information Theory and Applications Workshop (ITA), UCSD*, May. 2022.

[T11] "Social Bias Meets Data Bias: Towards Evaluating and Correcting for the Impacts of Biased Training Data", *Institute for Foundations of Data Science (IFDS), Ethics & Algorithm SIG (virtual)*, Apr. 2022.

[T12] "Social Bias Meets Data Bias: Correcting Biases through Bounded Exploration and Fairness", *School of Computing and Information Sciences, Florida International University (virtual)*, Oct. 2021.

[T13] "Fairness and Bias in Machine Learning", *1st IISE AI Conference, OSU*, Nov. 2021.

[T14] "Fairness in Machine Learning: Data Debiasing and Human in the Loop", *OSU AI Club*, Mar. 2021.

[T15] "The Impacts of Prediction Technologies on Relational Contracts", *Information Theory and Applications Workshop (ITA), UCSD*, Feb. 2020.

[T16] "Improving Cyber Security through Incentive Design and Data Analytics", *Center for Automotive Research, Ohio State University*, Feb. 2020.

[T17] "On Information Sharing in Multi-agent Reinforcement Learning", *Conference on Edge & Fog on Princeton Edge Lab 10th Anniversary, Princeton University*, May 2019.

[T18] "Information and Incentives in Learning and Decision Making on Networks", *Department of Electrical, Computer, and Systems Engineering, Rensselaer Polytechnic Institute*, Mar. 2019.

[T19] "Information and Incentives in Learning and Decision Making on Networks", *Department of Electrical and Computer Engineering, University of Southern California*, Mar. 2019.

[T20] "Information and Incentives in Learning and Decision Making on Networks", *Department of Integrated Systems Engineering, Ohio State University*, Feb. 2019.

[T21] "On Information Sharing in Multi-Agent Reinforcement Learning", *Information Theory and Applications Workshop (ITA), UCSD*, Feb. 2019.

[T22] "Information and Incentives in Learning and Decision Making on Networks", *Department of Industrial and Enterprise Systems Engineering, University of Illinois, Urbana-Champaign*, Feb. 2019.

[T23] "Information and Incentives in Learning and Decision Making on Networks", *Department of Electrical and Computer Engineering, University of Minnesota*, Feb. 2019.

[T24] "Information and Incentives in Learning and Decision Making on Networks", *Department of Industrial Engineering and Management Science, Northwestern University*, Dec. 2018.

[T25] "On Communication in Multi-agent Reinforcement Learning", *INFORMS 2018 Annual Meeting, Advanced Probability Invited Session*, Nov. 2018.

[T26] "Network Games with Applications in Cyber Security", *Purdue CS Theory Seminar*, Apr. 2018.

[T27] "Adversarial Contract Design for Selling Data", *Information Theory and Applications Workshop (ITA), UCSD*, Feb. 2018.

[T28] "Network Games with Applications in Cyber Security", *Purdue ECE Seminar*, Dec. 2017.

[T29] "Decision Making and Crowdsourcing on Networks", *EDGE lab, Princeton University*, May 2017.

[T30] "Improving Cyber Security through Cyber Insurance and Data Analytics", *Electrical Engineering Department, Texas A&M University*, Apr. 2017.

[T31] "Incentivizing Improved Cyber Security: A Study of Security as a Public Good"', *Computer Engineering and Systems Group Remote Seminar, Texas A&M University*, Mar. 2017.

[T32] "Network Structures and Public Good Provision Games", *Information Theory and Applications Workshop (ITA), UCSD*, Feb. 2017.

[T33] "Security Pre-Screening in the Design of Cyber-Insurance Policies", *CSP Seminar, Department of Electrical Engineering, University of Michigan*, Jan. 2017.

[T34] "Incentivizing Improved Cybersecurity: A Study of Security as a Public Good", *Department of Electrical Engineering, University of California San Diego*, Nov. 2016.

[T35] "On the Provision of Public Goods on Networks", *Communications, Networks, and Systems Seminar, Ming Hsieh Institute, University of Southern California*, Nov. 2016.

[T36] "Provision of Public Goods on Networks and its Applications to Cyber-Security", *University of Notre Dame*, Sep. 2016.

[T37] "Provision of Non-Excludable Public Goods on Networks: Incentives, Exit Equilibrium, and Applications to Cyber Security", *ITA Graduation Day, UCSD*, Feb. 2016.

Service and Professional Activities

Conference Organization:

- Poster and Demo Co-Chair, ACM MobiHoc 2024, 2025
- Workshops Co-Chair, ACM MobiHoc 2023
- Submission and Publication Co-Chair, ACM MobiHoc 2022

Technical Program Committee Member:

- ACM Conference on Equity and Access in Algorithms, Mechanisms and Optimization (EAAMO) 2024
- Workshop on the Economics of Information Security (WEIS) 2024
- ACM International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing (ACM MobiHoc) 2019 - 2024
- Conference on Decision and Game Theory for Security (GameSec) 2021 - 2024
- ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT) 2022 - 2023
- International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt) 2019 - 2023
- IEEE International Symposium on Information Theory (ISIT) 2022
- ICML/ICLR workshop on Socially Responsible Machine Learning 2021 - 2022
- IEEE Sarnoff Symposium 2019

- IEEE/IFIP Conference on Dependable and Secure Networks (DSN) Fast Abstract 2019
- ACM International Conference on emerging Networking EXperiments and Technologies (CoNEXT) Student Workshop 2019

Panel Member for Grant Proposal Review:

National Science Foundation (NSF), CISE, CCF 2022, 2024
National Science Foundation (NSF), CISE, CNS 2021

External Reviewer for Journals and Conferences:

Journals: (each listed only once) Operations Research, IEEE Transactions on Control of Network Systems, IEEE Transactions on Automatic Control, IEEE Control Systems Letters, IEEE/ACM Transactions on Networking, IEEE Transactions on Communications, IEEE Transactions on Information Theory, IEEE Transactions on Information Forensics & Security, IEEE Transactions on Neural Networks and Learning Systems, IEEE Transactions on Mobile Computing, IEEE Transactions on Dependable and Secure Computing, IEEE Transactions on Vehicular Technology, IEEE Transactions on Cognitive Communications & Networking, IEEE Security & Privacy, IEEE Networking Letter, IEEE JSAC Special issue on Smart Data Pricing for Next Generation Networks, IEEE JSAC Series on Machine Learning for Communications and Networks, IEEE JSAIT, ACM Transactions on Internet Technology, Computer, Information Technology and People, Physica A, International Journal on Robust and Nonlinear Control, SIAM Journal on Control and Optimization.
Conferences: CDC (2018-25), ACC (2017-24), GlobalSIP (2015), ICC (2016-17), VTC (2015-18), SODA (2020), NeurIPS (2021, 2025), AISTATS (2022).

Service at UCSD:

- Diversity, Equity, and Inclusion (DEI) Committee (ECE) 2023 - 2025

Service at OSU:

- Strategic Planning Committee (ISE) 2022 - 2023
- OR Faculty Search Committee (ISE) 2021 - 2022
- Chair's Advisory Committee (ISE) 2020 - 2022

Outreach, Volunteering, and Other Service:

- **Keynote**, EDGE "Girls' Day Out" event for high school students in the San Diego area 2025
- **Speaker**, Murrieta Valley High School SWENext Club, Murrieta Valley, CA 2024
- **Panelist**, "All Girls' STEAM Day" event, Southwest Senior High School, San Diego 2024
- **Workshop organizer**, "Bias in Artificial Intelligence", EDGE "Girls' Day Out" event for high school students in the San Diego area, UCSD 2024 - 2025
- **Panelist**, EDGE "Women in STEM" day panel, UCSD 2024
- **Faculty mentor**, Translating Engineering Research to K-8 (TEK8) design challenge, OSU & Metro Middle School, Columbus, OH 2023

- **Faculty mentor**, N2Women Meeting organization at MobiHoc'23 2023
- **Career day speaker**, Metro High School, Columbus, OH 2023
- **Mentor**, Data Science for Women Summer Camp, TDAI, Ohio State University 2021
- **Organizing member**, networking events and social gatherings for graduate women in Electrical Engineering and Computer Science, University of Michigan 2013 - 2015