Kwang-Sung Jun

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Research interests

Machine learning theory. Past focus was on interactive machine learning including active learning and contextual bandits, reinforcement learning theory, and basic tools such as confidence bounds. Recently, I am various topics surrounding LLMs including system-2 reasoning with Monte Carlo tree search, partial monitoring, alignment, fine-tuning.

Employment

University of Arizona **Tucson, AZ**
Assistant Professor, Department of Computer Science *August 2019–current*

Boston University **Boston, MA**
Postdoctoral Associate, Hariri Institute *September 2018–July 2019*
Advisor: Dr. Francesco Orabona

University of Wisconsin-Madison **Madison, WI**
Postdoctoral Associate, Wisconsin Institute for Discovery *August 2015–July 2018*
Advisors: Drs. Robert Nowak, Rebecca Willett, and Stephen Wright

Education

University of Wisconsin-Madison **Madison, WI**
Ph.D. Computer Sciences *2009–2015*
Advisor: Dr. Xiaojin (Jerry) Zhu
Dissertation: Some Machine Learning Methods from Sequential Input

University of Wisconsin-Madison **Madison, WI**
M.S. Computer Sciences *2009–2011*

Soongsil Univeristy **Seoul, South Korea**
B.E. Computing (Summa cum Laude, ranked 1/269); minor in Mathematics *2003–2009*

Research themes

Independent of research topics, there are frequent themes in my research:

- **Online learning as a theoretical/algorithmic tool**: Online learning started from theoretical motivation, I believe, but it turns out to be a very useful tool for ML research such as deriving superior learning-theoretic guarantees, confidence bounds, and algorithms. Interestingly, these results are often nontrivial to obtain without online learning and their regret bounds.
  - COLT'24, TIT'24 (journal), NeurIPS'24 (Lee et al.), ICML'24 (Jun and Kim), COLT'23, COLT'19, NeurIPS'17.
- **Instance-dependent guarantees**: If done right, this is a superior form of guarantee than the worst-case guarantee. At its best form, instance-dependent guarantees fully describe the performance of an algorithm as a function of the problem at hand. Often, they reveal significantly accelerated rates compared to the

worst-case guarantees, and some of these rates can only be achieved via carefully designed algorithms. Some weaker versions are still of the worst-case style but involves instance dependent quantities (e.g., noise variance).

  - AISTATS'25 (Nguyen et al.), NeurIPS'24 (Zhao et al.), ICML'24 (Jang et al.), ICML'23, NeurIPS'22 (Jang et al.), NeurIPS'22 (Kim et al.).

- **Parameter-free algorithms**: Many existing algorithms have a key hyperparameter that may lead to catastrophic failure when mistuned (e.g., learning rates in SGD). PF algorithms attempt to tune it automatically – more precisely, they provably adapts to the best hyperparameter automatically. In a weaker form, they do not tune it optimally but but do so good enough that it would not hurt the performance too much.

  - ICML'24 (Jun and Kim), ICML'23, AISTATS'22 (Gales et al.), COLT'19, NeurIPS'17, AISTATS'17.

Publications

NAME: PhD advisees or postdoctoral mentees.
NAME†: Informal advisee.
NAME*: Equal contribution.
NAME$^\circ$: substantial portion of work while I was a graduate student.

Preprints

Journal Articles

Hyejin Park, Seiyun Shin, **Kwang-Sung Jun**, and Jungseul Ok. "Transfer Learning in Bandits with Latent Continuity." *IEEE Transactions on Information Theory*, vol. 70, no. 11, pp. 7952-7970, 2024.

Francesco Orabona, **Kwang-Sung Jun**. "Tight concentrations and confidence sequences from the regret of universal portfolio." *IEEE Transactions on Information Theory*, vol. 70, no. 1, pp. 436-455, 2024.

Kwang-Sung Jun$^\circ$, Francesco Orabona, Rebecca Willett, Stephen Wright. "Online Learning for Changing Environments using Coin Betting." *Electronic Journal of Statistics (EJS)*, 11(2), 5282–5310, 2017.

Peer-Reviewed Conferences

J. Jon Ryu, Jeongyeol Kwon, Benjamin Koppe and **Kwang-Sung Jun**. "Improved Offline Contextual Bandits with Second-Order Bounds: Betting and Freezing." In *Proceedings of the Conference on Learning Theory (COLT)*, 2025. Preprint arXiv:2502.10826.

Kapilan Balagopalan, Tuan Ngo Nguyen, Yao Zhao, and **Kwang-Sung Jun**. "Fixing the Loose Brake: Exponential-Tailed Stopping Time in Best Arm Identification." In *Proceedings of the International Conference on Machine Learning (ICML)*, 2025. Preprint arXiv:2411.01808.

Tuan Ngo Nguyen and **Kwang-Sung Jun**. "HAVER: Instance-Dependent Error Bounds for Maximum Mean Estimation and Applications to Q-Learning." In *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2025. Preprint arXiv:2411.00405

Kapilan Balagopalan and **Kwang-Sung Jun**. "Minimum Empirical Divergence for Sub-Gaussian Linear Bandits." In *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2025. Preprint arXiv:2411.00229.

Junghyun Lee†, Se-Young Yun, and **Kwang-Sung Jun**. "A Unified Confidence Sequence for Generalized Linear Models, with Applications to Bandits." In *Neural Information Processing Systems (NeurIPS)*, 2024.

Also, Oral presentation at ICML'24 Workshop on Aligning Reinforcement Learning Experimentalists and Theorists

Yao Zhao, **Kwang-Sung Jun**, Tanner Fiez, Lalit Jain. "Adaptive Experimentation When You Can't Experiment." In *Neural Information Processing Systems (NeurIPS)*, 2024.

Ilja Kuzborskij, **Kwang-Sung Jun**, Yulian Wu, Kyoungseok Jang, Francesco Orabona. "Better-than-KL PAC-Bayes Bounds." In *Proceedings of the Conference on Learning Theory (COLT)*, 2024.

Kyoungseok Jang, **Kwang-Sung Jun**, Chicheng Zhang. "Efficient Low-Rank Matrix Estimation, Experimental Design, and Arm-Set-Dependent Low-Rank Bandits." In *Proceedings of the International Conference on Machine Learning (ICML)*, 2024.

Kwang-Sung Jun, Jungtaek Kim. "Noise-Adaptive Confidence Sets for Linear Bandits and Application to Bayesian Optimization." In *Proceedings of the International Conference on Machine Learning (ICML)*, 2024.

Junghyun Lee[†], Se-Young Yun, **Kwang-Sung Jun**. "Improved Regret Bounds of (Multinomial) Logistic Bandits via Regret-to-Confidence-Set Conversion." In *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2024.

Hao Qin[†], **Kwang-Sung Jun**, Chicheng Zhang. "Kullback-Leibler Maillard Sampling for Multi-armed Bandits with Bounded Rewards." In *Neural Information Processing Systems (NeurIPS)*, 2023.

Kyoungseok Jang, **Kwang-Sung Jun**, Ilja Kuzborskij, Francesco Orabona (alphabetical order). "Tighter PAC-Bayes Bounds Through Coin-Betting." In *Proceedings of the Conference on Learning Theory (COLT)*, PMLR 195:2240-2264, 2023. Oral presentation at ICML'23 Workshop on PAC-Bayes Meets Interactive Learning

Yao Zhao, Connor Stephens, Csaba Szepesvári, **Kwang-Sung Jun**. "Revisiting Simple Regret Minimization in Multi-Armed Bandits." In *Proceedings of the International Conference on Machine Learning (ICML)*, PMLR 202:42110-42158, 2023.

Kyoungseok Jang, Chicheng Zhang, **Kwang-Sung Jun**. "PopArt: Efficient Sparse Regression and Experimental Design for Optimal Sparse Linear Bandits." In *Neural Information Processing Systems (NeurIPS)*, 35:2102-2114, 2022.

Yeoneung Kim[†], Insoon Yang, **Kwang-Sung Jun**. "Improved Regret Analysis for Variance-Adaptive Linear Bandits and Horizon-Free Linear Mixture MDPs." In *Neural Information Processing Systems (NeurIPS)*, 35:1060-1072, 2022.

Louis Faury, Marc Abeille, **Kwang-Sung Jun**, Clément Calauzènes. "Jointly Efficient and Optimal Algorithms for Logistic Bandits." In *International Conference on Artificial Intelligence and Statistics (AISTATS)*, PMLR 151:546-580, 2022.

Spencer Brady Gales, Sunder Sethuraman, **Kwang-Sung Jun**. "Norm-Agnostic Linear Bandits." In *International Conference on Artificial Intelligence and Statistics (AISTATS)*, PMLR 151:73-91, 2022.

Jie Bian, **Kwang-Sung Jun**. "Maillard Sampling: Boltzmann Exploration Done Optimally." In *International Conference on Artificial Intelligence and Statistics (AISTATS)*, PMLR 151:54-72, 2022.

Blake Mason, **Kwang-Sung Jun**, Lalit Jain. "An Experimental Design Approach for Regret Minimization in Logistic Bandits." In *AAAI Conference on Artificial Intelligence (AAAI)*, 36(7):7736-7743, 2022.

Kwang-Sung Jun, Lalit Jain, Blake Mason, Houssam Nassif. "Improved Confidence Bounds for the Linear Logistic Model and Applications to Bandits." In *International Conference on Machine Learning (ICML)*, PMLR 139:5148-5157, 2021.

Kyoungseok Jang†, **Kwang-Sung Jun**, Se Young Yun, Wanmo Kang. "Improved Regret Bounds of Bilinear Bandits using Action Space Dimension Analysis." In *International Conference on Machine Learning (ICML)*, PMLR 139:4744-4754, 2021.

Hyejin Park, Seiyun Shin, **Kwang-Sung Jun**, Jungseul Ok. "Transfer Learning in Bandits with Latent Continuity." In *IEEE International Symposium on Information Theory (ISIT)*, pp. 1463-1468, 2021.

Kwang-Sung Jun, Chicheng Zhang "Crush Optimism with Pessimism: Structured Bandits Beyond Asymptotic Optimality." In *Neural Information Processing Systems (NeurIPS)*, 33:6366-6376, 2020. Oral presentation at ICML'20 workshop on theoretical foundations of reinforcement learning, July 2020.

Kwang-Sung Jun, Ashok Cutkosky, Francesco Orabona. "Kernel Truncated Randomized Ridge Regression: Optimal Rates and Low Noise Acceleration." In *Neural Information Processing Systems (NeurIPS)*, 32:15332-15341, 2019.

Kwang-Sung Jun, Francesco Orabona. "Parameter-Free Online Convex Optimization with Sub-Exponential Noise." In *Proceedings of the Conference on Learning Theory (COLT)*, PMLR 99:1802-1823, 2019.

Kwang-Sung Jun, Rebecca Willett, Stephen Wright, Robert Nowak. "Bilinear Bandits with Low-rank Structure." In *Proceedings of the International Conference on Machine Learning (ICML)*, PMLR 97:3163-3172, 2019.

Kwang-Sung Jun, Lihong Li, Yuzhe Ma, Xiaojin Zhu. "Adversarial Attacks on Stochastic Bandits." In *Neural Information Processing Systems (NeurIPS)*, 31:3644-3653, 2018.

Yuzhe Ma, **Kwang-Sung Jun**, Lihong Li, Xiaojin Zhu. "Data Poisoning Attacks in Contextual Bandits." In *Conference on Decision and Game Theory for Security (GameSec)*, 9:186-204, 2018.

Kwang-Sung Jun, Aniruddha Bhargava, Robert Nowak, Rebecca Willett. "Scalable Generalized Linear Bandits: Online Computation and Hashing." In *Advances in Neural Information Processing Systems (NeurIPS)*, 30:99-109, 2017.

Xiaozhu Meng, Barton P. Miller, **Kwang-Sung Jun**. "Identifying Multiple Authors in a Binary Program." In *European Symposium on Research in Computer Security (ESORICS)*, Part II 22:286-304, 2017.

Kwang-Sung Jun, Francesco Orabona, Rebecca Willett, Stephen Wright. "Improved Strongly Adaptive Online Learning using Coin Betting." In *The International Conference on Artificial Intelligence and Statistics (AISTATS)*, PMLR 54:943-951, 2017. (Oral presentation 28/168=16.7%)

Kwang-Sung Jun, Robert Nowak. "Graph-Based Active Learning: A New Look at Expected Error Minimization." In *In IEEE GlobalSIP Symposium on Non-Commutative Theory and Applications*, pp. 1325-1329, 2016.

Jeffrey Zemla, Yoed Kenett, **Kwang-Sung Jun**, Joseph Austerweil. "U-INVITE: Estimating Individual Semantic Networks from Fluency Data." In *Proceedings of the 38th Annual Meeting of the Cognitive Science Society*, Volume 1(1):35-58, 2016.

Kwang-Sung Jun, Robert Nowak. "Anytime Exploration for Multi-armed Bandits using Confidence Information." In *Proceedings of the International Conference on Machine Learning (ICML)*, PMLR 48:974-982, 2016.

Kwang-Sung Jun°, Kevin Jamieson, Robert Nowak, Xiaojin Zhu. "T°op Arm Identification in Multi-armed Bandits with Batch Arm Pulls." In *The International Conference on Artificial Intelligence and Statistics (AISTATS)*, PMLR 51:139-148, 2016.

Kwang-Sung Jun°, Xiaojin Zhu, Timothy Rogers, Zhuoran Yang, Ming Yuan. "Human Memory Search

as Initial-visit Emitting Random Walk." In *Advances in Neural Information Processing Systems (NeurIPS)*, 28:1072-1080, 2015.

Kwang-Sung Jun°, Xiaojin Zhu, Burr Settles, Timothy Rogers. "Learning from Human-Generated Lists." In *Proceedings of the International Conference on Machine Learning (ICML)*, PMLR 28(3):181-189, 2013.

Jun-Ming Xu, **Kwang-Sung Jun**°, Xiaojin Zhu, Amy Bellmore. "Learning from Bullying Traces in Social Media." In *North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL-HLT)*, pp. 656-666, 2012.

Xiaojin Zhu, Bryan R. Gibson, **Kwang-Sung Jun**°, Timothy T. Rogers, Joseph Harrison, and Chuck Kalish. "Cognitive models of test-item effects in human category learning." In *Proceedings of the International Conference on Machine Learning (ICML)*, 27:1247-1254, 2010.

Kwang-Sung Jun, Kyu-Baek Hwang. "An efficient collaborative filtering method based on k-nearest neighbor learning for large-scale data." In *Proceedings of Korea Computer Congress*, pp. 376-380, 2008.

Workshops & Technical Reports

Kwang-Sung Jun, Chicheng Zhang "Crush Optimism with Pessimism: Structured Bandits Beyond Asymptotic Optimality." In ICML Workshop on Theoretical Foundations of Reinforcement Learning, 2020. (**Oral presentation**)

Kwang-Sung Jun, Francesco Orabona. "Parameter-Free Locally Differentially Private Stochastic Subgradient Descent." In *NeurIPS Workshop on Privacy in Machine Learning (PriML)*, 2019.

Kayla Jacobs, **Kwang-Sung Jun**°, Nathan Lieby, Elena Eneva. "S°marter Crisis Crowdsourcing." In *ACM SIGKDD Workshop on Data Science for Social Good*, 2014.

Michael Maynord, Jitrapon Tiachunpun, Xiaojin Zhu, Charles R. Dyer, **Kwang-Sung Jun**°, Jake Rosin. "A°n Image-To-Speech iPad App." In *Department of Computer Sciences Technical Report TR1774, University of Wisconsin-Madison*, 2012.

Bryan R. Gibson, **Kwang-Sung Jun**°, Xiaojin Zhu. "W°ith a little help from the computer: Hybrid human-machine systems on bandit problems." In *NeurIPS Workshop on Computational Social Science and the Wisdom of Crowds*, 2010.

Book Chapters

Kwang-Sung Jun°, Robert Nowak. "Bayesian Active Learning on Graphs." Chapter 10 in *Cooperative and Graph Signal Processing*, Petar Djuric and Cedric Richard, Eds., Elsevier, pp.283-297 2018.

Awarded Grants and Contracts

Federal

- "CIF: Small: Theory and Algorithms for Efficient and Large-Scale Monte Carlo Tree Search." 100% one Summer month, PI Kwang-Sung Jun, NSF CIF, $599,238, 2023-2026.

Industry

- "Adapting to temporal patterns in A/B testing." PI Kwang-Sung Jun, Meta, $100,000. 2025.

Intramural

- "Sequential Decision-Making Algorithms for Accelerated Materials Science.", PI Kwang-Sung Jun, Research, Innovation & Impact, University of Arizona. $15,000, 2023.
- "Data-Driven Risk Assessment and Mitigation for Post-Fire Debris Flows." PI Kwang-Sung Jun, Co-PI

Luke McGuire, Data Science Academy, University of Arizona. $28,521, 2022.

- "Provably Efficient Adaptive Monte Carlo Methods." PI Kwang-Sung Jun, Research, Innovation & Impact, University of Arizona. $27,890, 2022.

Advising

PhD advisee

- Yinan Li (UA CS, 2024-)
- Yao Zhao (UA CS, 2020-)
- Kapilan Balagopalan (UA CS, 2022-)
- Tuan Nguyen (UA CS, 2022-)
- Spencer Brady Gales (UA Applied Math, 2020-2022; switched advisor)
- Jie Bian (UA CS, 2020-2022; had to quit due to a visa issue by Proclamation 10043 set by the former US president)

Postdoc mentee

- Kyoungseok Jang (2022-2023; now faculty at Chungang University, South Korea)

PhD Minor advisee

- Yeshuai He (UA Systems and Industrial Engineering (SIE))
- Amanda Triplett (UA Hydrology)
- Minhang Zhou (UA SIE)
- Shunyu Yao (UA SIE)
- Amir Hossein Yazdani Abyaneh (UA Electronic and Computer Engineering)
- Guangyu Hu (UA Materials Science)

Undergraduate

- Ethan Huang (UA CS, 2025-2025)
- Benjamin Koppe (UA CS, transferred to Cornell, 2023-2025)
- Anthony Hsu (UA CS, 2024)
- Tokhirjon Vokhidov (UA CS, 2024)
- Hari Gopal Krishnan (UA CS, 2020-2022)

Honors and Awards

Outstanding Faculty Research Award, Department of Computer Science, UA, 2024.

Top 10% reviewer, International Conference on Machine Learning (ICML), 2022.

Top 10% reviewer, International Conference on Artificial Intelligence and Statistics (AISTATS), 2022.

Top 8% reviewer, Neural Information Processing Systems (NeurIPS), 2021.

Travel Grants, International Conference on Machine Learning (ICML), 2013.

Doctoral Study Abroad Scholarship from The Korea Foundation of Advanced Studies, 2009-2014.

Alumni Scholarship, Department of Computer Sciences, University of Wisconsin-Madison, 2009.

Korean Broadcasting System (KBS) Science and Engineering Human Resource Development Scholarship, 2009.

Conferences/Scholarly Presentations

SNU: Seoul National University
KAIST: Korea Advanced Institute of Science & Technology
POSTEC: Pohang University of Science and Technology
KU: Korea University

Invited Talks

- "Confidence Sequences via Online Learning."
  - UW-Madison SILO seminar, Oct 2024. [1]
  - University of Illinois Urbana-Champaign (hosted by Nan Jiang), Oct 2024.
  - University of Washington (hosted by Kevin Jamieson), Oct 2024.
  - UA Applied Math Colloquium, Sep 2024.
  - ASU (hosted by Gautam Dasarathy), Sep 2024.
- "Noise-Adaptive Confidence Sets for Linear Bandits." KAIST Graduate School of AI, Jun 2024.
- "Accelerated Algorithms for Interactive Machine Learning." {KU Statistics, SNU Statistics, Yonsei Statistics}, Jun 2024.
- "Recent advances of interactive machine learning in the data-poor regime." {Yonsei, KAIST Graduate School of Data Science}, Aug 2023.
- "Revisiting Simple Regret in Multi-Armed Bandits: Fast Rates for Returning a Good Arm." {SNU Statistics, KAIST School of Computing}, Aug 2023.
- "Maillard Sampling: Boltzmann Exploration Done Optimally." Chung-Ang University, South Korea, June 2023.
- "PopArt: Efficient Sparse Regression and Experimental Design for High- Dimensional Interactive Machine Learning." Missouri University of Science and Technology, September 2022.
- "PopArt: Efficient Sparse Regression and Experimental Design for High- Dimensional Interactive Machine Learning." SNU, South Korea, July 2022.
- "Maillard Sampling: Boltzmann Exploration Done Optimally." {Korea Advanced Institute of Science and Technology, POSTEC, SNU}, South Korea, June 2022.
- "Maillard Sampling: Boltzmann Exploration Done Optimally." RL Theory Seminars (Virtual), May 2022.
- "Maillard Sampling for Interactive Machine Learning: Boltzmann Exploration Done Optimally." TRIPODS Seminar, University of Arizona, April 2022.
- "Recent Developments on Logistic Linear Bandits." {Ulsan National Institute of Science and Technology, POSTEC, KAIST, SNU}, South Korea, June 2021.
- "Crush Optimism with Pessimism: Structured Bandits Beyond Asymptotic Optimality." RL Theory Seminars (Virtual), July 2020.
- "Accelerating discovery rate in adaptive experiments via bandits with low-rank structure." TRIPODS RWG6 Seminar, University of Arizona, September 2019.
- "Adaptive data collection for accelerating discovery rates." TRIPODS Seminar, University of Arizona, September 2019.
- "Accelerating discovery rate in adaptive experiments via bandits with low-rank structure." Microsoft, Cambridge, MA, Jul 2019.

[1] Recording available at `https://silo.wisc.edu/talk/09122024-2-2-2-2-2/`

- "Accelerating discovery rate in adaptive experiments via bandits with low-rank structure." University of Arizona, Tucson, AZ, Apr 2019.
- "Adapting to changing environments in online learning." Boston University, Open AIR: Industry Open House, Boston, MA, Oct 2018.
- "Scalable Generalized Linear Bandits: Online Computation and Hashing." University of Wisconsin-Madison, Madison, WI, Oct 2017.
- "Multi-Armed Bandit Algorithms and Applications to Experiment Selection." University of Wisconsin-Madison, Center for Predictive Computational Phenotyping Annual Retreat, Madison, WI, Jun 2016.
- "Top Arm Identification in Multi-Armed Bandits with Batch Arm Pulls." University of Wisconsin-Madison, Madison, WI, Mar 2016.
- "Measuring semantic structure from verbal fluency data with the initial-visit-emitting (INVITE) random walk." University of Wisconsin-Madison, Madison, WI, Nov 2015.
- "Learning from Human-Generated Lists." Toyota Technological Institute at Chicago, Chicago, IL, Mar 2015.

Symposia and Workshops

Invitation-base only; excluded talks based on the paper submission.

- "Noise-Adaptive Confidence Sets for Linear Bandits." TTIC Chicago Summer Workshop: Adaptive Learning in Complex Environments, Jul 2024.
- Tutorial: "Recent Developments of Interactive Machine Learning using Bandit Algorithms," SAARC Workshop on Mathematics and Machine Learning at Korea Advanced Institute of Science and Technology, South Korea, August 2021.

Conferences

Presentations not related to paper submission and invitation base.

- "Noise-Adaptive Confidence Sets for Linear Bandits." Arizona - Los Alamos days, Los Alamos National Laboratory, Apr 2024.
- "Adaptive data collection for accelerating discovery rates." Arizona - Los Alamos Days, May 2020.
- "Confidence Sequences via Online Learning." INFORMS'24 (session chair by Min-Hwan Oh), Oct 2024.

Service/Outreach

Local/State Outreach

- Panelist on the future of AI at The Loft Cinema, Tucson AZ, May 2023.
- Panelist on "What is Data Science?" at Research Bazaar Arizona, Tucson AZ, May 2021.
- Mentor for Women in STEM Mentorship Program (Mentee: Nuzhat Mastura, first year CS), September 2020 - April 2021.

Departmental Committees

- Tenure-Track Faculty Recruiting Committee: Member (2024 Fall - 2025 Spring)
- Tenure-Track Faculty Recruiting Committee: Member (2024 Spring)
- Departmental Statistics Committee: Chair (2023 Fall - 2024 Spring).
- Graduate Recruiting and Admissions Committee: Member (2019-2020, 2021-2022, 2022-2023).
- Awards Committee: Member (Spring 2023).

- Data science MS Implementation Committee: Chair (Fall 2022).
- Tenure Track Faculty Recruiting Committee: Member (2020-2021).
- Comprehensive Exam Committee: Manujinda Wathugala (May 2022), Hao Qian (Dec 2023), Alonso (Dec 2023), Yichen Li (Dec 2023), Mahdi Rahimi (Dec 2023).
- Dissertation Committee: Chinmai Basavaraj (December 2021).

Other committees: External Committees

- Dissertation Committee: Bingshan Hu (University of British Columbia; September 2021)
- UA SIE (Systems and Industrial Engineering) Tenure Track Faculty Recruiting Committee (2020-2021).

Proposal reviews

- ARO (Army Research Office) proposal review, 2022.
- NSF CISE Panel review, 2021.

Conference reviews

- NeurIPS (Neural Information Processing Systems): Area Chair (2023-2025), Program Committee (2016-2023).
- ICML (International Conference on Machine Learning): Area Chair (2025), Program Committee 2016-2024.
- COLT (Conference on Learning Theory): Senior Program Committee (Area Chair) 2023-2025, Reviewer 2017-2022.
- AISTATS (International Conference on Artificial Intelligence and Statistics): Program Committee 2017-2025.
- ALT (Algorithmic Learning Theory): Senior Program Committee (Area Chair) 2025.
- AAAI (Association for the Advancement of Artificial Intelligence): Area Chair (Equivalent to Senior Area Chair) 2023-2025, Senior Program Committee 2020-2022, Program Committee 2018.

Journal editor

- Action editor of the journal *Machine Learning* (2024-2025).

Journal reviews (YYYY(N) means reviewed N papers in year YYYY.)

- Information and Inference: A Journal of the IMA: 2020(1), 2023(1)
- IEEE Transactions on Information Theory: 2023(1).
- IEEE Transactions on Signal Processing: 2019(1).
- IEEE Transactions on Neural Networks and Learning Systems: 2019(1), 2020(1).
- Machine Learning: 2020(1), 2021(2).
- IEEE Transactions on Pattern Analysis and Machine Intelligence: 2020(1), 2021(1).
- IEEE Journal on Selected Areas in Information Theory: 2021(1)
- IEEE Open Journal of Control Systems, 2022(1)

Other service

- A co-host for (virtual) RL theory seminar (Osama A. Hanna's talk, 2023).

Industry Experience

Eric and Wendy Schmidt's Data Science for Social Good **Chicago, IL**
Fellow *Summer 2013*
Supervisor: Elena Eneva and Rayid Ghani
Project: "Smarter Crisis Crowdsourcing." Developed natural language processing tools for automatic event tagging (e.g., categorization) in a crisis crowdsourcing framework.

@WalmartLabs **San Bruno, CA**
Member of Technical Staff Internship *Summer 2012*
Supervisor: Yannis Pavlidis
Project: "Personal Event Detection in Twitter"

Robert Bosch LLC **Palo Alto, CA**
Research Internship *Summer 2011*
Supervisor: Dr. Soundar Srinivasan
Project: "Data Mining for Smart Medical Logic"

Teaching

University of Arizona **Tucson, AZ, USA**
Computer Science Department

CSC588 Machine Learning Theory	Spring 2025
CSC480/580 Principles of Machine Learning	Fall 2024
CSC588 Machine Learning Theory	Spring 2024
CSC696H Topics in Concentration of Measure	Fall 2023
CSC588 Machine Learning Theory	Spring 2023
CSC380 Principles of Data Science	Fall 2022
CSC380 Principles of Data Science	Spring 2022
CSC580 Principles of Machine Learning	Fall 2021
CSC580 Principles of Machine Learning	Fall 2020
CSC665 Online Learning and Multi-armed Bandits	Spring 2020