# Josiah P. Hanna

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## EDUCATION

The University of Texas at Austin — Austin, TX
*Ph.D.* in Computer Science — 2014 – 2019

- ◇ Advisor: Prof. Peter Stone
- ◇ Dissertation: Data Efficient Reinforcement Learning with Off-policy and Simulated Data
- ◇ Research: Artificial Intelligence, Reinforcement Learning, Robotics

The University of Kentucky — Lexington, KY
*B.S.* in Computer Science and Mathematics — 2010 – 2014

- ◇ GPA: 4.0
- ◇ Summa Cum Laude

## WORK EXPERIENCE

**University of Wisconsin – Madison, Computer Sciences Department** — Madison, WI
*Assistant Professor* — August 2021 – Present

- ◇ Lead research in reinforcement learning and robotics.
- ◇ Supervise Ph.D., MS, and undergraduate student researchers.
- ◇ Teach courses in artificial intelligence and reinforcement learning.

**University of Edinburgh, School of Informatics** — Edinburgh, U.K.
*Postdoctoral Research Associate* — January 2020 – July 2021

- ◇ Advised by Prof. Stefano Albrecht.
- ◇ Conducted research in reinforcement learning and multi-agent systems.
- ◇ Informally advised three Ph.D. students and two M.Sc. students.

**FiveAI, Ltd.** — Edinburgh, U.K.
*Consultant* — March 2020 – June 2021

- ◇ Developed planning and prediction algorithms for autonomous vehicles.
- ◇ Supervised two research interns.

**Google, Inc.** — Mountain View, CA
*Software Engineering Intern* — May 2017 – Sept. 2017

- ◇ Advised by Craig Boutillier.
- ◇ Developed reinforcement learning algorithms with application to Google products.

**University of Texas at Austin** — Austin, TX
*IBM PhD Research Fellow* — September 2018 – December 2019

- ◇ Developed algorithms for correcting inaccuracy from random sampling in reinforcement learning.
- ◇ Mentored three undergraduate students on projects relating to reinforcement learning and optimization.

*Teaching Assistant* — September 2017 – December 2018

- ◇ CS 343H – Honors Artificial Intelligence
- ◇ CS 393R – Autonomous Robotics

*NSF Graduate Research Fellow* — August 2014 – August 2017

- ◇ Developed an algorithm allowing robot learning in simulation to transfer to the real world.

- ◇ Developed algorithms for evaluating the performance of untested robot behaviors.
- ◇ Developed a novel tolling scheme for autonomous vehicles that reduced traffic congestion in road networks.

**Computer Science Department, University of Kentucky** Lexington, KY
*Undergraduate Research Assistant* May 2013 – May 2014
- ◇ Investigated leveraging structure in artificial intelligence planning under uncertainty problems.

**Laboratoire d'Informatique de Paris 6** Paris, France
*Research Intern* May 2012 – Aug. 2012
- ◇ Developed algorithms for solving multi-objective planning problems.

**College of Arts and Sciences, University of Kentucky** Lexington, KY
*Software Developer* June 2011 – May 2012
- ◇ Developed a clustering algorithm for student academic data.

## HONORS AND AWARDS

- ◇ IJCAI Early Career Spotlight 2025
- ◇ RoboCup Standard Platform League Challenge Shield Division 1st Place 2024
- ◇ AAAI New Faculty Highlight 2024
- ◇ RoboCup Standard Platform League Challenge Shield Division 3rd Place 2023
- ◇ Madison Teaching and Learning Excellence Fellow 2022
- ◇ IBM Ph.D. Fellowship 2018
- ◇ Robocup Standard Platform League Runner-Up 2016
- ◇ RoboCup 3D Simulation League Champions 2015
- ◇ National Science Foundation Graduate Research Fellowship 2014
- ◇ Barry M. Goldwater Scholarship 2013
- ◇ Phi Kappa Phi 2013
- ◇ Astronaut Scholarship 2013
- ◇ Duncan E. Clarke Memorial Scholarship 2012
- ◇ Barry M. Goldwater Scholarship, Honorable Mention 2012
- ◇ Tau Beta Pi 2012

## TEACHING

- ◇ Assistant Professor at the University of Wisconsin–Madison: August 2021 – Present
  - CS 540: Introduction to Artificial Intelligence Fall 2021
  - CS 839: Advanced Topics in Reinforcement Learning Fall 2022
  - CS 540: Introduction to Artificial Intelligence Spring 2023
  - CS 760: Machine Learning Fall 2023
  - CS 639: Autonomous Robotics Spring 2025

## SERVICE ACTIVITIES

**University and Department Service**

- ◇ Computer Sciences Curriculum Committee 2024 – 2025
- ◇ Hilldale Fellowship Awards Committee 2024, 2025
- ◇ Computer Sciences Graduate Admissions Committee 2021 – 2024
- ◇ Computer Sciences Professional Masters Admissions Committee 2023

**Reviewing**

- ◇ Action Editor, Machine Learning Journal (MLJ) 2023 – present
- ◇ Editorial Board, Machine Learning Journal (MLJ) 2021 – present
- ◇ Senior Area Chair, Reinforcement Learning Conference 2025
- ◇ Area Chair, ICML Position Paper Track 2025
- ◇ Reviewer, AAMAS AAAI Track 2025
- ◇ Reviewer, Robotics and Autonomous Systems 2025
- ◇ Senior Program Committee, AAAI 2023 – 2024
- ◇ Area Chair, NeurIPS 2023 – 2024
- ◇ Program Committee, ICML 2023
- ◇ Reviewer, Robotics and Automation Letters (RA-L) 2023
- ◇ Reviewer, The Artificial Intelligence Journal (AIJ) 2022
- ◇ Meta-Reviewer, AAAI 2022
- ◇ Program Committee, NeurIPS 2022
- ◇ Senior Program Committee, CoLLAS 2022
- ◇ AISTATS Mentorship Program Mentor 2022
- ◇ Program Committee, ICML 2022
- ◇ Reviewer, RSS 2021
- ◇ Reviewer, IROS 2021
- ◇ Program Committee, ICML 2021
- ◇ Program Committee, AAMAS Workshop on Adaptive Learning Agents (ALA) 2021
- ◇ Reviewer, Journal of Artificial Intelligence Research (JAIR) 2020
- ◇ Program Committee, ICML 2020
- ◇ Program Committee, ICML 2019
- ◇ Program Committee, AAMAS 2019
- ◇ Program Committee, AAAI Conference on Artificial Intelligence 2019
- ◇ Reviewer, Neural Information Processing Systems (NeurIPS) 2018
- ◇ Reviewer, International Conference on Machine Learning (ICML) 2018
- ◇ Program Committee, AAAI Spring Symposium on Data Efficent Reinforcement Learning 2018
- ◇ Reviewer, Neural Information Processing Systems (NeurIPS) 2017
- ◇ Program Committee, Workshop on Scaling Up Reinforcement Learning 2017
- ◇ Review Assistant, International Joint Conference on Artificial Intelligence (IJCAI) 2017
- ◇ Reviewer, Neural Information Processing Systems (NeurIPS) 2016

**Conference, Workshop, and Competition Organization**

- ◇ Reinforcement Learning Conference Workshop Chair 2024 – 2025
- ◇ RoboCup Standard Platform League, Executive Committee 2024 – Present
- ◇ RoboCup Symposium Program Chair 2024
- ◇ RoboCup Standard Platform League, Technical Committee 2023 – 2024
- ◇ RoboCup Standard Platform League, Organizing Committee 2018

**Other Service**

- ◇ U.S. Robotics Research Roadmapping Workshop Contributor 2023
- ◇ WISCERS Faculty Mentor 2022, 2024, 2025
- ◇ Mercile Lee Scholars Mentor 2021 – 2022

## THESIS COMMITTEES

**Doctoral Committee Supervisor or co-Supervisor**

- ◇ Subhojyoti Mukherjee, defended February 2025, co-advised with Rob Nowak and Qiaomin Xie. *Adaptive Data Collection for Policy Evaluation, Multi-task Learning and LLM Alignment*

**Doctoral Committee Member: (University of Wisconsin – Madison)**

- ◇ Yuzhe Ma, Computer Sciences. Supervisor: Jerry Zhu.
- ◇ Young Wu, Computer Sciences. Supervisor: Jerry Zhu.
- ◇ Matt Dutson, Computer Sciences. Supervisor: Mohit Gupta.
- ◇ Toygun Basaklar, Electrical and Computer Engineering. Supervisor: Umit Ogras.
- ◇ Jeremey McMahan, Computer Sciences. Supervisor: Jerry Zhu
- ◇ Yeping Wang, Computer Sciences. Supervisor: Michael Gleicher
- ◇ Json Zhou, Mechanical Engineering. Supervisor: Dan Negrut
- ◇ Liu Yang, Computer Sciences. Supervisor: Robert Nowak
- ◇ Matthew Zurek, Computer Sciences. Supervisor: Yudong Chen
- ◇ Shanatu Gupta, Computer Sciences. Supervisor: Mohit Gupta

## OTHER ADVISING

- ◇ Current Wisconsin PhD Students: Brahma Pavse, Nicholas Corrado, Adam Labiosa, Yunfu Deng, Abhinav Harish, Will Cong
- ◇ Current Wisconsin MS Students: Anshuman Senapti, Joseph Zhong
- ◇ Current Wisconsin Undergraduate Students: Ben Hong, Chen Li, Yuhao Li, Zisen Zhao, Alan Zhong, Stuti Pandey
- ◇ Past Wisconsin Undergraduate Students: Yuxiao Qu (December 2022), Adhit Sankaran (May 2022), Will Cong (December 2022), Paul Pak (May 2023), Kwasi Debrah-Pinamang (May 2024), Edbert Wang (May 2024), Lucas Poon (December 2024)
- ◇ Past Wisconsin MS Students: Yoon Chae Na (December 2022), Arun Ravi (December 2022), Shreyansh Sharma (December 2022), Duohan Zhang (May 2023), John Balis (December 2023).
- ◇ University of Alberta M.Sc. Thesis: Hager Radi (2022)
- ◇ Five AI Interns: Elliott Fosong (2020), Arrasy Rahman (2021)
- ◇ University of Edinburgh M.Sc. Thesis: Rujie (Jerry) Zhong (2021), Panagiotis Kyriakou (2021)

- ◇ UT Austin MS Thesis: Brahma Pavse (2019-2020)
- ◇ UT Austin Undergraduate Research: Xiang Gu (2018), John Fang (2018-2019), Harsh Goyal (2018-2019)

## PUBLICATIONS

### Pre-Prints and Works Under Review

- ◇ **Hanna, J.P.**, Corrado, N. "When Can Model-Free Reinforcement Learning Be Enough for Thinking?" *Arxiv Pre-Print*, 2025.
- ◇ Kwon, J, Yang, L, **Hanna, J.P.**, Nowak, R. "Future Prediction Can Be a Strong Evidence of Good History Representation in Partially Observable Environments." *Arxiv Pre-Print*, 2024.
- ◇ Corrado, N, **Hanna, J.P.**. "On-Policy Policy Gradient Reinforcement Learning Without On-Policy Sampling." *Arxiv Pre-Print*, 2023.

### Journal Articles

- ◇ **Hanna, J.P.**, Chandak, Y, White, M, Thomas, P, Niekum, S, Stone, P. "Data-Efficient Policy Evaluation Through Behavior Policy Search." In *Journal of Machine Learning Research (JMLR)*, 2024.
- ◇ **Hanna, J.P.**. "Toward the Confident Deployment of Real-world Reinforcement Learning Agents." In *AI Magazine*, 2024.
- ◇ Abdelwahed, H, **Hanna, J.P.**, Taylor, M. "Conservative Evaluation of Offline Policy Learning." In *Transactions of Machine Learning Research (TMLR)*, 2024.
- ◇ **Hanna, J.P.**, Desai, S, Karnan, H, Warnell, G, Stone, P. "Grounded Action Transformation for Sim-to-Real Reinforcement Learning." In *Machine Learning (MLJ): Special Issue on Reinforcement Learning for Real Life*, 2021.
- ◇ **Hanna, J.P.**, Niekum, S, Stone, P. "Importance Sampling in Reinforcement Learning with an Estimated Behavior Policy." In *Machine Learning*, 2021.
- ◇ Pavse, B, Torabi, F, **Hanna, J.P.**, Warnell, G, Stone, P. "RIDM: Reinforced Inverse Dynamics Modeling for Learning From a Single Observed Demonstration." In *IEEE Robotics and Automation Letters*, 2020.
- ◇ Sharon, G, Levin, M, **Hanna, J.P.**, Rambha, T, Boyles, S, Stone, P. "Network-wide Adaptive Tolling for Connected and Automated Vehicles." In *Transportation Research Part C*, 2017.
- ◇ Chen, T, Kockelman, K, **Hanna, J.P.**. "Operations of a Shared, Autonomous, Electric Vehicle Fleet: Implications of Vehicle & Charging Infrastructure Decisions." In *Transportation Research Part A: Policy and Practice*, 2016.

### Refereed Conference Proceedings

- ◇ Mukherjee, S, **Hanna, J.P.**, Xie, Q, Nowak, R. "Pretraining Decision Transformers with Reward Prediction for In-Context Multi-task Structured Bandit Learning." In *Proceedings of the Reinforcement Learning Conference (RLC)*, 2025.
- ◇ Zhou, H, **Hanna, J.P.**, Zhu, J, Yang, Y, Shi, C. "Demystifying the Paradox of Importance Sampling with an Estimated History-Dependent Behavior Policy in Off-Policy Evaluation." In *Proceedings of the International Conference on Machine Learning (ICML)*, 2025.
- ◇ Pavse, B, Chen, Y, Xie, Q, **Hanna, J.P.**. "Stable Offline Value Function Learning with Bisimulation-based Representations." In *Proceedings of the International Conference on Machine Learning (ICML)*, 2025.
- ◇ Labiosa, A, **Hanna, J.P.**. "Multi-Robot Collaboration through Reinforcement Learning and Abstract Simulation." In *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, 2025.

- ◇ Labiosa, A, Wang, Z, Agarwal, S, Cong, W, Hemkumar, G, Harish, A, Hong, B, Kelle, J, Li, C, Li, Y, Shao, Z, Stone, P, **Hanna, J.P.**. "Reinforcement Learning Within the Classical Robotics Stack: A Case Study in Robot Soccer." In *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, 2025.
- ◇ Jain, A, **Hanna, J.P.**, Precup, D. "Adaptive Exploration for Data-Efficient General Value Function Evaluations." In *Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2024.
- ◇ Harish, A, Heck, L, **Hanna, J.P.**, Kira, Z, Szot, A. "Reinforcement Learning Via Auxiliary Task Distillation." In *Proceedings of the European Conference on Computer Vision (ECCV)*, 2024.
- ◇ Corrado, N, Qu, Y, Balis, J, Labiosa, A, **Hanna, J.P.**. "Guided Data Augmentation for Offline Reinforcement Learning and Imitation Learning." In *Proceedings of the Reinforcement Learning Conference (RLC)*, 2024.
- ◇ Mukherjee, S, **Hanna, J.P.**, Nowak, R. "SaVeR: Optimal Data Collection Strategy for Safe Policy Evaluation in Tabular MDP." In *Proceedings of the International Conference on Machine Learning (ICML)*, 2024.
- ◇ Pavse, B, Zurek, M, Chen, Y, Xie, Q, **Hanna, J.P.**. "Learning To Stabilize Online Reinforcement Learning in Unbounded State Spaces." In *Proceedings of the International Conference on Machine Learning (ICML)*, 2024.
- ◇ Mukherjee, S, Xie, Q, **Hanna, J.P.**, Nowak, R. "SPEED: Experimental Design for Policy Evaluation in Linear Heteroscedastic Bandits." In *Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2024.
- ◇ Corrado, N, **Hanna, J.P.**. "Understanding When Dynamics-Invariant Data Augmentations Benefit Model-Free Reinforcement Learning Updates." In *Proceedings of the International Conference on Learning Representations (ICLR)*, 2024.
- ◇ Pavse, B, **Hanna, J.P.**. "State-Action Similarity-Based Representations for Off-Policy Evaluation." In *Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- ◇ Mukherjee, S, Xie, Q, **Hanna, J.P.**, Nowak, R. "Multi-task Representation Learning for Pure Exploration in Bilinear Bandits." In *Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- ◇ Dunion, M, McInroe, T, Luck, K, **Hanna, J.P.**, Albrecht, S. "Conditional Mutual Information for Disentangled Representations in Reinforcement Learning." In *Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- ◇ Dunion, M, McInroe, T, Luck, K, **Hanna, J.P.**, Albrecht, S. "Temporal Disentanglement of Representations for Improved Generalisation in Reinforcement Learning." In *Proceedings of the International Conference on Learning Representations (ICLR)*, 2023.
- ◇ Pavse, B, **Hanna, J.P.**. "Scaling Marginalized Importance Sampling To High-Dimensional State-Spaces Via State Abstraction." In *Proceedings of the AAAI Conference on Artificial Intelligence*, 2023.
- ◇ Zhong, R, Zhang, D, Schäfer, L, Albrecht, S, **Hanna, J.P.**. "Robust On-Policy Sampling for Data-Efficient Policy Evaluation in Reinforcement Learning." In *Proceedings of Neural and Information Processing Systems (NeurIPS)*, 2022.
- ◇ Mukherjee, S, **Hanna, J.P.**, Nowak, R. "ReVar: Strengthening Policy Evaluation Via Reduced Variance Sampling." In *Proceedings of the 38th International Conference on Uncertainty in Artificial Intelligence (UAI)*, 2022.
- ◇ Corrado, N, Qu, Y, **Hanna, J.P.**. "Simulation-Acquired Latent Action Spaces for Dynamics Generalization." In *Proceedings of the 1st Conference on Lifelong Learning Agents (CoLLAs)*, 2022.
- ◇ Schäfer, L, **Hanna, J.P.**, Christiano, F, Albrecht, S. "Decoupled Reinforcement Learning To Stabilise Intrinsically-Motivated Exploration." In *Proceedings of the International Conference on Autonomous and Multi-agent Systems (AAMAS)*, 2022.

- ◇ Ahmed, I, **Hanna, J.P.**, Fosong, E, Stefano V, A. "Towards Quantum-Secure Authentication and Key Agreement Via Abstract Multi-Agent Interaction." In *Proceedings of the International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS)*, 2021.
- ◇ **Hanna, J.P.**, Rahman, A, Fosong, E, Eiras, F, Dobre, M, Redford, J, Ramamoorthy, S, Albrecht, S. "Interpretable Goal Recognition in the Presence of Occluded Factors for Autonomous Vehicles." In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2021.
- ◇ Dey, S, Pendurkar, S, Sharon, G, **Hanna, J.P.**. "A Joint Imitation-Reinforcement Learning Framework for Reduced Baseline Regret." In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2021.
- ◇ Desai, S, Durugkar, I, Karnan, H, Warnell, G, **Hanna, J.P.**, Stone, P. "An Imitation From Observation Approach To Transfer Learning with Dynamics Mismatch." In *Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2020.
- ◇ Desai, S, Karnan, H, **Hanna, J.P.**, Warnell, G, Stone, P. "Stochastic Grounded Action Transformation for Robot Learning in Simulation." In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2020.
- ◇ Karnan, H, Desai, S, **Hanna, J.P.**, Warnell, G, Stone, P. "Reinforced Grounded Action Transformation for Sim-to-Real Transfer." In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2020.
- ◇ Pavse, B, Durugkar, I, **Hanna, J.P.**, Stone, P. "Reducing Sampling Error in Batch Temporal Difference Learning." In *Proceedings of the 37th International Conference on Machine Learning (ICML)*, 2020.
- ◇ Ault, J, **Hanna, J.P.**, Sharon, G. "Learning an Interpretable Traffic Signal Control Policy." In *Proceedings of the 19th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2020.
- ◇ **Hanna, J.P.**, Niekum, S, Stone, P. "Importance Sampling Policy Evaluation with an Estimated Behavior Policy." In *Proceedings of the 36th International Conference on Machine Learning (ICML)*, 2019.
- ◇ **Hanna, J.P.**, Stone, P. "Reducing Sampling Error in the Monte Carlo Policy Gradient Estimator." In *Proceedings of the 18th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2019.
- ◇ **Hanna, J.P.**, Sharon, G, Boyles, S, Stone, P. "Selecting Compliant Agents for Opt-in Microtolling." In *Proceedings of the 33rd AAAI Conference on Artificial Intelligence (AAAI)*, 2019.
- ◇ Chen, H, An, B, Sharon, G, **Hanna, J.P.**, Stone, P, Miao, C, Soh, Y. "DyETC: Dynamic Electronic Toll Collection for Traffic Congestion Alleviation." In *Proceedings of the 32nd AAAI Conference on Artificial Intelligence (AAAI)*, 2018.
- ◇ **Hanna, J.P.**, Thomas, P, Stone, P, Niekum, S. "Data-Efficient Policy Evaluation Through Behavior Policy Search." In *Proceedings of the 34th International Conference on Machine Learning (ICML)*, 2017.
- ◇ Sharon, G, **Hanna, J.P.**, Rambha, T, Levin, M, Albert, M, Boyles, S, Stone, P. "Real-time Adaptive Tolling Scheme for Optimized Social Welfare in Traffic Networks." In *Proceedings of the 16th International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2017)*, 2017.
- ◇ **Hanna, J.P.**, Stone, P, Niekum, S. "Bootstrapping with Models: Confidence Intervals for Off-Policy Evaluation." In *Proceedings of the 16th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2017.
- ◇ **Hanna, J.P.**, Stone, P. "Grounded Action Transformation for Robot Learning in Simulation." In *Proceedings of the 31st AAAI Conference on Artificial Intelligence (AAAI)*, 2017.
- ◇ Perny, P, Weng, P, Goldsmith, J, **Hanna, J.P.**. "Approximation of Lorenz-Optimal Solutions in Multiobjective Markov Decision Processes." In *Proceedings of the International Conference on Uncertainty in Artificial Intelligence (UAI)*, 2013.

**Book Chapters / Refereed Workshops / Symposium Proceedings**

- ◇ **Hanna, J.P.**, Corrado, N. "Thinking Is a Form of Control." In *Proceedings of the Finding the Frame Workshop at the Reinforcement Learning Conference (RLC)*, 2025.
- ◇ Shao, Z, **Hanna, J.P.**. "WeRef: An Open-source and Extensible Dataset for Referee Gesture Recognition in RoboCup." In *RoboCup-2025: Robot Soccer World Cup XXVIII*, 2025.
- ◇ Jain, A, **Hanna, J.P.**, Precup, D. "Adaptive Exploration for Data-Efficient General Value Function Evaluations." In *Proceedings of the European Workshop on Reinforcement Learning (EWRL)*, 2024.
- ◇ **Hanna, J.P.**, Pavse, B, Harish, A. "Replacing Implicit Regression with Classification in Policy Gradient Reinforcement Learning." In *Proceedings of the Finding the Frame Workshop at the Reinforcement Learning Conference (RLC)*, 2024.
- ◇ Mukherjee, S, Xie, Q, **Hanna, J.P.**, Nowak, R. "SPEED: Experimental Design for Policy Evaluation in Linear Heteroscedastic Bandits." In *ICML Workshop on the Many Facets of Preference-Based Learning*, 2023.
- ◇ Pavse, B, **Hanna, J.P.**. "Scaling Marginalized Importance Sampling To High-Dimensional State-Spaces Via State Abstraction." In *Proceedings of the Offline Reinforcement Learning Workshop at NeurIPS 2022*, 2022.
- ◇ Dunion, M, McInroe, T, Luck, K, **Hanna, J.P.**, Albrecht, S. "Temporal Disentanglement of Representations for Improved Generalisation in Reinforcement Learning.." In *Proceedings of the NeurIPS 2022 Workshop on Deep Reinforcement Learning*, 2022.
- ◇ Zhang, C, Papaemmanouil, O, **Hanna, J.P.**, Akella, A. "Multi-agent Databases Via Independent Learning." In *Proceedings of the 4th International Workshop on Applied AI for Database Systems and Applications*, 2022.
- ◇ Zhong, R, **Hanna, J.P.**, Schäfer, L, Albrecht, S. "Robust On-Policy Sampling for Data-Efficient Policy Evaluation in Reinforcement Learning." In *Proceedings of the NeurIPS Workshop on Offline Reinforcement Learning (OfflineRL)*, 2021.
- ◇ Radi, H, **Hanna, J.P.**, Stone, P, Taylor, M. "Safe Evaluation for Offline Learning: Are We Ready To Deploy?" In *Proceedings of the NeurIPS Workshop on Deployable Decision Making in Embodied Systems (DDM)*, 2021.
- ◇ Lobo, E, Chandak, Y, Dharmashankar, S, **Hanna, J.P.**, Petrik, M. "Behavior Policy Search for Risk Estimators in RL." In *Proceedings of the NeurIPS Workshop on Safe and Robust Control of Uncertain Systems*, 2021.
- ◇ Schäfer, L, **Hanna, J.P.**, Christiano, F, Albrecht, S. "Decoupled Reinforcement Learning To Stabilise Intrinsically-Motivated Exploration." In *Proceedings of the ICML Workshop on Unsupervised Reinforcement Learning (URL)*, 2021.
- ◇ Pavse, B, Durugkar, I, **Hanna, J.P.**, Stone, P. "On Sampling Error in Batch Action-Value Prediction Algorithms." In *Proceedings of the Offline Reinforcement Learning Workshop at Neural Information Processing Systems (NeurIPS)*, 2020.
- ◇ Pavse, B, Torabi, F, **Hanna, J.P.**, Warnell, G, Stone, P. "RIDM: Reinforced Inverse Dynamics Modeling for Learning From a Single Observed Demonstration." In *Proceedings of the Imitation, Intent, and Interaction (I3) Workshop at ICML 2019*, 2019.
- ◇ **Hanna, J.P.**, Stone, P. "Towards a Data Efficient Off-Policy Policy Gradient." In *AAAI Spring Symposium on Data Efficient Reinforcement Learning*, 2018.
- ◇ Menashe, J, Kelle, J, Genter, K, **Hanna, J.P.**, Liebman, E, Narvekar, S, Zhang, R, Stone, P. "Fast and Precise Black and White Ball Detection for RoboCup Soccer." In *RoboCup-2017: Robot Soccer World Cup XXI*, 2017.
- ◇ MacAlpine, P, **Hanna, J.P.**, Liang, J, Stone, P. "UT Austin Villa: RoboCup 2015 3D Simulation League Competition and Technical Challenges Champions." In *RoboCup-2015: Robot Soccer World Cup XIX*, 2016.

- ◇ **Hanna, J.P.**, Albert, M, Chen, D, Stone, P. "Minimum Cost Matching for Autonomous Carsharing." In *Proceedings of the 9th IFAC Symposium on Intelligent Autonomous Vehicles (IAV 2016)*, 2016.
- ◇ Guerin, J, **Hanna, J.P.**, Ferland, L, Mattei, N, Goldsmith, J. "The Academic Advising Planning Domain." In *Proceedings of the 3rd Workshop on the International Planning Competition at ICAPS*, 2012.

## FUNDING

### Current and Past Support

- ◇ PI: American Family Data Science Funding Initiative
  - – *Counterfactual Evaluation of Sequential Decision Policies*
  - – Award amount: $96,000
  - – Dates: September 1, 2022 – August 31, 2023
- ◇ PI: American Family Data Science Funding Initiative
  - – *Learning What is Relevant for Counterfactual Policy Evaluation*
  - – Award amount: $99,999
  - – Dates: September 1, 2023 – August 31, 2024
- ◇ PI: Sandia University Partnership Network
  - – *Discovery of Conductive Inks and Electronic Devices co-Designed with Closed-Loop, Autonomous, Reinforcement Ecosystems*
  - – Award amount: $102,450
  - – Dates: November 13, 2023 – September 30, 2025
- ◇ PI: National Science Foundation, IIS-2410981
  - – *RI: Small: Active Testing for Evaluating Reinforcement Learning Agents*
  - – Award amount: $569,138
  - – Dates: September 1, 2024 – August 31, 2027
- ◇ PI: Wisconsin Fall Research Competition 2023
  - – *Towards Practically Efficient Reinforcement Learning through Active Sampling*
  - – Award amount: $59,021
  - – Dates: September 1, 2024 – August 31, 2025
- ◇ PI: Wisconsin Fall Research Competition 2024
  - – *Toward Trustworthy AI Decision-Makers through Abstraction*
  - – Award amount: $65,805
  - – Dates: September 1, 2025 – August 31, 2026

**TALKS**

- ◇ University of Minnesota, Robotics Institute. *Toward Deploying Reinforcement Learning with Confidence in Real-time and Dynamic Robotic Tasks.* October 2024.
- ◇ University of California, San Diego, Computer Science and Engineering Seminar. *Toward Deploying Reinforcement Learning with Confidence in Real-time and Dynamic Robotic Tasks.* September 2024.
- ◇ Invited Talk at the Midwest Robotics Workshop. *Toward Deploying Reinforcement Learning with Confidence in Real-time and Dynamic Robotic Tasks.* April 2024
- ◇ AAAI Conference New Faculty Highlight. *Scaling Offline Evaluation of Reinforcement Learning Agents through Abstraction.* February 2024.
- ◇ Autonomous Learning Lab at the University of Massachusetts – Amherst. *On-Policy Reinforcement Learning without On-Policy Sampling.* February 2024.
- ◇ Interactive Robotics Group at MIT. February 2024.
- ◇ Lab for Learning and Planning in Robotics at Northeastern University. *On-Policy Reinforcement Learning without On-Policy Sampling.* February 2024.
- ◇ Tulane University, Computer Science Department Colloquium. *Towards Reinforcement Learning for Real-time and Dynamic Robotic Tasks.* December 2023.
- ◇ University of Kentucky, Keeping Current Seminar. *Towards Reinforcement Learning for Real-time and Dynamic Robotic Tasks.* November 2023.
- ◇ Sony AI. *Towards Data Efficient Monte Carlo Estimates in Reinforcement Learning.* November 2021.
- ◇ University of Wisconsin – Madison SILO Seminar Series. *Towards Data Efficient Monte Carlo Estimates in Reinforcement Learning.* September 2021.
- ◇ University of Wisconsin – Madison Robotics Seminar Series. *Better Prediction for Reinforcement Learning in Robotics and Autonomous Driving.* October 2021.
- ◇ University of Edinburgh AIAI Institute Seminar. *Data Efficient Reinforcement Learning from Reweighted and Simulated Data.* November 2020.
- ◇ University of Wisconsin – Madison SILO Seminar Series. *Data Re-weighting for Data Efficient Reinforcement Learning.* 2020.
- ◇ Microsoft Research Seminar. *Date Efficient Reinforcement Learning for Autonomous Robots* June 2019.
- ◇ AAAI Spring Symposium on Data Efficient Reinforcement Learning, Invited Talk. *Data Efficient Reinforcement Learning with Off-policy and Simulated Data.* April 2018.