Brahma S. Pavse

CONTACT INFORMATION

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EDUCATION

University of Wisconsin - Madison (2022 -)

- Ph.D. in Computer Science.
- Interests: Reinforcement learning, representation learning, off-policy RL.
- Advisor: Josiah P. Hanna.

University of Texas at Austin (2015 - 2020)

- M.S. in Computer Science.
- B.S. in Computer Science.
- Advisor: Peter Stone.

PUBLICATIONS (*= CONTRIBUTION)

Peer-reviewed Conference Papers

5. **Brahma S. Pavse**, Matthew Zurek, Yudong Chen, Qiaomin Xie, and Josiah P. Hanna. Learning to Stabilize Online Reinforcement Learning in Unbounded State Spaces. International Conference on Machine Learning (ICML), July 2024. Acceptance rate: 27.5%. [pdf].
4. **Brahma S. Pavse** and Josiah P. Hanna. State-Action Similarity-Based Representations for Off-Policy Evaluation. Neural Information Processing Systems (NeurIPS), December 2023. Acceptance rate: 26.1%. [pdf].
3. **Brahma S. Pavse** and Josiah P. Hanna. Scaling Marginalized Importance Sampling to High-Dimensional State-Spaces via State Abstraction. Association for the Advancement of Artificial Intelligence (AAAI), February 2023. Acceptance rate: 19.6%. **Selected for oral presentation**. [pdf].
2. **Brahma S. Pavse***, Faraz Torabi*, Josiah P. Hanna, Garrett Warnell, Peter Stone. RIDM: Reinforced Inverse Dynamics Modeling for Learning From a Single Observed Demonstration. IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), October 2020. Acceptance rate: 47%. **2nd place in the RoboCup 3D Sim Scientific Challenge 2019**. [pdf].
1. **Brahma S. Pavse**, Ishan Durugkar, Josiah P. Hanna, and Peter Stone. Reducing Sampling Error in Batch Temporal Difference Learning. International Conference on Machine Learning (ICML), July 2020. Acceptance rate: 21.8%. [pdf].

Journal Articles

1. **Brahma S. Pavse***, Faraz Torabi*, Josiah P. Hanna, Garrett Warnell, Peter Stone. RIDM: Reinforced Inverse Dynamics Modeling for Learning From a Single Observed Demonstration. IEEE Robotics and Automation Letters, July 2020. **2nd place in the RoboCup 3D Sim Scientific Challenge 2019**.

Peer-reviewed Workshop Papers

3. Josiah P. Hanna, **Brahma S. Pavse**, and Abhinav Narayan Harish. Replacing Implicit Regression with Classification in Policy Gradient Reinforcement Learn-

ing. Workshop on Finding the Frame: An RLC Workshop for Examining Conceptual Frameworks, Reinforcement Learning Conference (RLC), August 2024.

2. **Brahma S. Pavse** and Josiah P. Hanna. Scaling Marginalized Importance Sampling to High-Dimensional State-Spaces via State Abstraction. Workshop on Offline Reinforcement Learning, Neural Information Processing Systems (NeurIPS), December 2022.
1. **Brahma S. Pavse**, Josiah P. Hanna, Ishan Durugkar, and Peter Stone. On Sampling Error in Batch Action-Value Prediction Algorithms. Workshop on Offline Reinforcement Learning, Neural Information Processing Systems (NeurIPS), December 2020.

Book Chapters

2. Patrick MacAlpine, Faraz Torabi, **Brahma Pavse**, and Peter Stone. UT Austin Villa: RoboCup 2019 3D Simulation League Competition and Technical Challenge Champions. In RoboCup 2019: Robot World Cup XXIII, Lecture Notes in Artificial Intelligence, Springer, 2019.

1. Patrick MacAlpine, Faraz Torabi, **Brahma Pavse**, John Sigmon, and Peter Stone. UT Austin Villa: RoboCup 2018 3D Simulation League Champions. In RoboCup 2018: Robot Soccer World Cup XXII, Lecture Notes in Artificial Intelligence, Springer, 2019.

Professional Experience

UW-Madison, Madison, WI, USA
Graduate RA — Reinforcement learning **Jan. 2022 -**

Sony AI America, Remote, USA
AI Research Intern — Reinforcement learning team **Summer 2023**
- Mentor: Varun Kompella.

Salesforce.com, San Francisco, CA, USA
Software Engineer — Database Optimization team **Aug. 2020 - Jan. 2022**

UT Austin and Bosch, Austin, TX, USA
Autonomous Driving Research Scientist Assistant **Summer 2020**

Salesforce.com, San Francisco, CA, USA
Software Engineering Intern — Database Optimization team **Summer 2019, 2018, 2017**

SAS Institute, Cary, NC, USA
Software Engineering Intern — Data Management team **Summer 2016**

Awards and Honors

- NeurIPS Top Reviewer Award (Top 10%) (2023).
- AAAI Student Scholarship (2023).
- UW Madison CS Summer Research Fellowship Award (2022).
- UW Madison CS Graduate Scholarship (2022).
- UT Austin CS Special Departmental Honors (Research) (2020).
- Eva Stevenson Woods Endowed Presidential Scholarship (2019).
- National Instruments Endowed Scholarship (2019).
- RoboCup 3D Simulation League World Champions (2019, 2018).

Service

- Coordinator, UW-Madison Reinforcement Learning Reading Group (2022-).
- Graduate Student Mentor, Wisconsin Science and Computing Emerging Research Stars (WISCERS) (2022).
- Reviewer, UT Austin Computer Science Dept. MS Admissions Committee (2020).

Reviewing

- Reinforcement Learning Conference (RLC) 2024.
- RLC Finding the Frame: An RLC Workshop for Examining Conceptual Frameworks 2024.
- NeurIPS Goal-Conditioned Reinforcement Learning Workshop 2023.
- Neural Information Processing Systems (NeurIPS) 2024, 2023, 2022.
- International Conference on Machine Learning (ICML) 2024, 2023.
- Association for the Advancement of Artificial Intelligence (AAAI) 2023.
- International Conference on Learning Representations (ICLR) 2023, 2022.
- International Conference on Robotics and Automation (ICRA) 2021.

Mentoring

UW Madison Undergraduates

- Stuti Pandey (2024-)
- Lucas Poon (2024-)
- Adhit Sankaran (2022 - 2023). Next: Cornell MS in CS.

Invited Talks

- UT Austin Reinforcement Learning Reading Group. April 2024.
- EdIntelligence at The University of Edinburgh. July 2020.

Personal Details

- Citizenship: USA