

# Brahma S. Pavse

---

## CONTACT INFORMATION

Email: [pavse@wisc.edu](mailto:pavse@wisc.edu)  
Webpage: [brahmasp.github.io](https://github.com/brahmasp)  
GScholar: [https://scholar.google.com/citations?user=2Dc\\_GnUAAAAJ&hl=en](https://scholar.google.com/citations?user=2Dc_GnUAAAAJ&hl=en)

## EDUCATION

### University of Wisconsin - Madison (Spring 2022 -)

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

### The University of Texas at Austin (2015 - 2020)

- M.S. in Computer Science.
- Thesis: Reducing Sampling Error in Batch Temporal Difference Learning.
- Committee: Peter Stone (advisor), Scott Niekum.
- B.S. in Computer Science.
- Thesis: Reinforced Inverse Dynamics Modeling for Learning from a Single Observed Demonstration.
- Committee: Peter Stone (advisor), Scott Niekum, Robert van de Geijn.
- Honors and Special Departmental Honors for Research.

## PUBLICATIONS (\* = CONTRIBUTION)

### 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 Conference Papers

4. **Brahma S. Pavse** and Josiah P. Hanna. State-Action Similarity-Based Representations for Off-Policy Evaluation. Neural Information Processing Systems (NeurIPS), December 2023.
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. **Selected for oral presentation.**
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. **2nd place in the RoboCup 3D Sim Scientific Challenge 2019.**
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.

### Peer-reviewed Workshop Papers

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**

## TEACHING EXPERIENCE

**University of Texas at Austin**, Austin, TX, USA

Teaching Assistant — Data Structures — Rating: 4.5/5.0

**Fall 2016**

## AWARDS AND HONORS

- AAAI Student Scholarship (2023).
- UW Madison CS Summer Research Fellowship Award (2022).
- UW Madison CS Graduate Scholarship (2022).
- UT Austin University Honors (2020).
- UT Austin CS Special Departmental Honors (Research) (2020).
- Bosch + UT Austin Summer Research Funding (2020).
- Eva Stevenson Woods Endowed Presidential Scholarship (2019).

- National Instruments Endowed Scholarship (2019).
- RoboCup 3D Simulation League World Champions (2019, 2018).
- RoboCup 3D Simulation Technical Challenge World Champions (2019).

#### 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

- Neural Information Processing Systems (NeurIPS) 2023, 2022.
- International Conference on Machine Learning (ICML) 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**

- Adhit Sankaran (2022 - 2023). Next: Cornell MS in CS.

#### RELEVANT COURSEWORK

##### **UW Madison Graduate**

- Foundation Models (Fred Sala)
- Real Analysis - I (Jordan Ellenberg)
- Mathematical Foundations of Machine Learning (Robert Nowak)

##### **UT Austin Graduate**

- Reinforcement Learning: Theory and Practice (Peter Stone and Scott Niekum)
- Autonomous Robots (Peter Stone)
- Machine Learning (Dana Ballard)
- Geometric Foundations of Data Sciences (Chandrajit Bajaj)

##### **UT Austin Undergraduate**

- Honors Artificial Intelligence (Peter Stone)
- Computer Vision/Machine Learning (Kristen Grauman)
- Honors Data Mining (Adam Klivans)
- Stochastic Processes (Stephen Walker)

#### PERSONAL DETAILS

- Citizenship: USA