Faraz Torabi

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Education

- **The University of Texas at Austin** — Austin, TX
  Ph.D., Computational Science, Engineering, and Mathematics — *Aug. 2015 – Aug 2021*
  Advisor: Peter Stone
  Dissertation: Imitation Learning from Observation
  Research: Reinforcement Learning, Imitation Learning, Robot Learning
  GPA: 3.91

- **The University of Texas at Austin** — Austin, TX
  Masters of Computational Science, Engineering, and Mathematics — *Aug. 2015 – Dec. 2017*
  Advisor: Peter Stone
  GPA: 3.90

- **Sharif University of Technology** — Tehran, Iran
  Bachelor of Mechanical and Civil Engineering (Double Majors) — *Sept. 2010 – June. 2015*
  GPA: 3.95

Research Interest

Machine learning, reinforcement learning, imitation learning, deep learning, robot learning, recommender systems

Experience

- **Microsoft Research** — Redmond, WA
  Research Intern — *May - Aug 2019*
  - **Research - Reinforcement Learning, Imitation Learning**: Researched multi-task reinforcement learning, where the goal was to develop general autonomous agents that are capable of performing a large set of tasks.
  - **Advised by**: Patrick MacAlpine and Adith Swaminathan

- **The University of Texas at Austin** — Austin, TX
  Research Assistant — *Sept 2016 - Present*
  - **Research - Imitation Learning**: Researched imitation learning from observation in the context of reinforcement learning, where the overall goal is for autonomous agents to learn tasks by visually observing experts performing them. This research has helped to establish imitation from observation as a topic in the community.
  - **UT Austin Villa**: A member of UT Austin Villa RoboCup 3D simulation team and helped improving the passing strategy. Also worked on improving the kick and walk skills of the agents. The team got the championship in 2018 and 2019.
  - **Mentoring**: Mentored an undergraduate and a graduate student on projects related to reinforcement learning and imitation learning.

Teaching Assistant

- **CS 394R Reinforcement Learning: Theory and Practice** — Fall 2019
- **CSE 380 Tools and Techniques of Computational Science** — Fall 2016

Refereed Conference Proceedings

- Pavse, Brahma S., **Faraz Torabi**, Josiah Hanna, Garrett Warnell, and Peter Stone. "Ridm: Reinforced inverse dynamics modeling for learning from a single observed demonstration." IEEE Robotics and Automation Letters 5, no. 4 (2020): 6262-6269, Presented in International Conference on Intelligent Robots and Systems (IROS 2020).
- **Torabi, Faraz**, Garrett Warnell, and Peter Stone. "Imitation Learning from Video by Leveraging Proprioception." Proceeding of the 28th International Joint Conference on Artificial Intelligence. AAAI Press, 2019.
- **Torabi, Faraz**, Garrett Warnell, and Peter Stone. "Recent Advances in Imitation Learning from Observation." Proceeding of the 28th International Joint Conference on Artificial Intelligence. AAAI Press, 2019.
- Zhang, Ruohan, **Faraz Torabi**, Lin Guan, Dana H. Ballard, and Peter Stone. "Leveraging Human Guidance for Deep Reinforcement Learning Tasks." Proceeding of the 28th International Joint Conference on Artificial Intelligence. AAAI Press, 2019.
- **Torabi, Faraz**, Garrett Warnell, and Peter Stone. "Behavioral cloning from observation." Proceedings of the 27th International Joint Conference on Artificial Intelligence. AAAI Press, 2018.

Refereed Workshops, Symposia, Extended Abstract

- **Torabi, Faraz**, Garrett Warnell, and Peter Stone. "Generative Adversarial Imitation From Observation." International Conference on Machine Learning Workshop on Imitation, Intent, and Interaction (I3). 2019.
- **Torabi, Faraz**, Sean Geiger, Garrett Warnell, and Peter Stone. "Sample-efficient Adversarial Imitation Learning from Observation." International Conference on Machine Learning Workshop on Imitation, Intent, and Interaction (I3). 2019.
- **Torabi, Faraz**, Garrett Warnell, and Peter Stone. "Adversarial Imitation Learning from State-only Demonstrations." Proceedings of the 18th Conference on Autonomous Agents and MultiAgent Systems. International Foundation for Autonomous Agents and Multiagent Systems, 2019.

Book Chapters

- MacAlpine, Patrick, **Faraz Torabi**, Brahma Pavse, and Peter Stone. "UT Austin Villa: RoboCup 2019 3D Simulation League Competition and Technical Challenge Champions." Robot Soccer World Cup. Springer, Sydney, Australia, 2019.
- MacAlpine, Patrick, **Faraz Torabi**, Brahma Pavse, John Sigmon, and Peter Stone. "UT Austin Villa: RoboCup 2018 3D Simulation League Champions." Robot Soccer World Cup. Springer, Montreal, Canada, 2018.

Preprints

- **Torabi, Faraz**, Garrett Warnell, and Peter Stone. "DEALIO: Data-Efficient Adversarial Learning for Imitation from Observation." arXiv preprint arXiv:2104.00163 (2021).
- Hudson, Eddy, Garrett Warnell, **Faraz Torabi**, and Peter Stone. "Skeletal Feature Compensation for Imitation Learning with Embodiment Mismatch." arXiv preprint arXiv:2104.07810 (2021).

Honors and Awards

- International Robocup 3D Simulation League Champion 2019
- International Robocup 3D Simulation League Champion 2018
- Robocup Asia Pacific 3D Simulation League Champion 2018
- Four-year NIMS fellowship for Outstanding Academic Records 2015
- National Elites Foundation Scholarship 2014

Service Activities

- Program committee, Neural Information Processing Systems, (NeurIPS) 2021
- Reviewer, International Conference on Intelligent Robots and Systems (IROS) 2021
- Reviewer, Robotics: Science and Systems (RSS) 2021
- Program committee, Neural Information Processing Systems (NeurIPS) 2020
- Program committee, International Conference on Intelligent Robots and Systems (IROS) 2020
- Program committee, Adaptive and Learning Agents (ALA) 2020
- Program committee, International Joint Conference on Artificial Intelligence (IJCAI) 2019
- Reviewer, The Knowledge Engineering Review Journal 2019
- Program committee, International Conference on Machine Learning (ICML) 2019
- Program committee, Adaptive and Learning Agents (ALA) 2019
- Program committee, Association for the Advancement of Artificial Intelligence (AAAI) 2019

Relevant Skills

Languages: Python, C++, Matlab, R, Mathematica, LaTeX
Tools: Tensorflow, Git, Linux, Mac Os
Skills: Artificial Intelligence, Robotics, Reinforcement Learning, Imitation Learning, Machine Learning, Supervised Learning, Statistics

References available upon request.