Bahram Behzadian

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Research Interests

Reinforcement learning, machine learning, robotics.

Education

University of New Hampshire — **Ph.D. candidate in Computer Science**, 2019-Present
Advisor: *Marek Petrik*

University of New Hampshire — **MSc. in Computer Science**, 2015-2019
Master's thesis: *Feature Selection by Singular Value Decomposition for Reinforcement Learning*
Thesis advisor: *Marek Petrik*

Tampere University of Technology, Finland — **MSc. in Machine Automation**, 2010-2013
Master's thesis: *Robot Localization with Weak Maps*
Thesis advisor: *Wolfram Burgard*

Azad University of Mashhad, Iran — **BSc. in Mechanical Engineering,** 2002-2007
Final project: *HVAC design for 16,000 sq. ft cold storage warehouse*

Research Experience

Reinforcement Learning and Robustness Lab
Research Assistant 2015–Present
University of New Hampshire, Durham, NH, USA
Projects: Optimizing the ambiguity sets for robust Markov decision processes, efficient algorithms for S-rectangular robust MDPs, and feature construction from high-dimensional raw-input observation for linear value function approximation for reinforcement learning.

Autonomous Intelligent Systems Lab
Research Assistant 2012–2014
University of Freiburg, Freiburg, Germany
Project: Mobile robot localization and navigation on hand-drawn maps.

Refereed Conference Publications

B. Behzadian, M. Petrik, C. P. Ho. "Fast Algorithms for L_∞ constrained S-rectangular Robust MDPs" To appear at *Neural Information Processing Systems (NeurIPS)*, 2021.

B. Behzadian, R. H. Russel, M. Petrik, C. P. Ho. "Optimizing Percentile Criterion using Robust MDPs" In *The International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2021.

B. Behzadian, S. Gharatappeh, M. Petrik. "Fast Feature Selection for Linear Value Function Approximation" In *International Conference on Automated Planning and Scheduling, (ICAPS)*, 2019.

B. Behzadian, P. Agarwal, W. Burgard, and G. D. Tipaldi. "Monte Carlo localization in hand-drawn maps" In *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2015.

F. Boniardi, B. Behzadian, W. Burgard, and G. D. Tipaldi. "Robot navigation in hand-drawn sketched maps." In *Proc. of the IEEE European Conference on Mobile Robotics (ECMR)*, 2015.

Symposiums & Workshops

R. H. Russel, B. Behzadian, M. Petrik. "Optimizing Norm-bounded Weighted Ambiguity Sets for Robust MDPs" In *33rd Conference on Neural Information Processing Systems (NeurIPS) Safety and Robustness in Decision-making Workshop*, 2019.

B. Behzadian, M. Petrik. "Feature Selection by Singular Value Decomposition for Reinforcement Learning" In *International Conference on Machine Learning (ICML) Prediction and Generative Modeling Workshop*, 2018.

B. Behzadian, M. Petrik. "Low-rank Feature Selection for Reinforcement Learning" In *International Symposium on Artificial Intelligence and Mathematics, (ISAIM)*, 2018.

Additional Employment

Envio, Inc.
AI Engineer Intern Summer 2018
Dover, NH, USA
Worked on solving a vehicle routing problem designed for intermodal trucking

Pergas Polymer Co.
PLC Programmer / Automation Engineer 2008–2009
Tehran, Iran
Provided technical support in the troubleshooting of electrical and PLC control systems and machinery

Tadbir Sanat Consulting Engineers
HVAC System Designer 2007–2008
Tehran, Iran
Performed calculations in mechanical systems design, selection, sizing of equipment, and interconnected HVAC, hydronic, steam, and plumbing systems

Teaching Experience

University of New Hampshire

Teaching Assistant

Reinforcement Learning	Fall 2021
Assembly Language Programming and Machine Organization	Fall 2021
Intro to Computer Science I	Fall 2016, Spring 2018
Intro to Computer Science II	Spring 2018
From Problems to Algorithms to Programs	Fall 2017
From Programs to Computer Science	Spring and Fall 2017

Scholarships /Awards

CEPS Graduate Fellowship 2015
College of Engineering and Physical Sciences, University of New Hampshire
A prestigious award that is based on the strength of academic record and the potential for success in graduate school.

Thesis and Dissertation Fellowship 2012
Office of International Affairs, Tampere University of Technology

Technical Skills

Programming Languages: Python; C/C++; R; Matlab.
Tools: Git; LaTeX; Linux; TLA+ .