

Bahram Behzadian

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Research Interests

Reinforcement learning, robotics.

Education

UNIVERSITY OF NEW HAMPSHIRE
Advisor: *Marek Petrik*

Ph.D. candidate in Computer Science, 2019-Present

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.

Conference Publications

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

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

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

Behzadian, B., Agarwal, P., Burgard, W., Tipaldi, G. D. “Monte Carlo localization in hand-drawn maps” In *International Conference on Intelligent Robots and Systems (IROS)*, 2015.

Boniardi, F., Behzadian, B., Burgard, W., Tipaldi, G. D. “Robot navigation in hand-drawn sketched maps.” In *European Conference on Mobile Robotics, (ECMR)*, 2015.

Symposiums & Workshops Russel, R. H., Behzadian, B., Petrik, M. “Optimizing Norm-bounded Weighted Ambiguity Sets for Robust MDPs” In *Neural Information Processing Systems (NeurIPS) Safety and Robustness in Decision-making Workshop*, 2019.

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

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

Additional Employment ENVIO, INC. Summer 2018
AI Engineer Intern
 Dover, NH, USA
 Worked on solving a vehicle routing problem designed for intermodal trucking

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

TADBIR SANAT CONSULTING ENGINEERS 2007–2008
HVAC System Designer
 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; L^AT_EX; Linux; TLA+ .