

Amirhossein Mesbah

GRADUATE STUDENT · RESEARCH ASSISTANT

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Education

University of Tehran

Tehran, Iran

M.Sc. IN COMPUTER ENGINEERING

2020 (Sep) - 2023 (Sep)

- Thesis: Subgoal Discovery using Subspaces and a Free Energy Paradigm
- Supervisors: Dr. Nili Ahmadabadi, Dr. Hosseini
- Advisor: Dr. Shariatpanahi
- Overall GPA: 19.48/20 (4/4)
- Key courses: Distributed Optimization, Bio-Inspired Learning, Interactive Learning, Introduction to Cognitive Sciences

University of Tabriz

Tabriz, Iran

B.S. IN COMPUTER ENGINEERING

2016 (Sep) - 2020 (Jul)

- Overall GPA: 18.23/20 (3.79/4)
- Key courses: Algorithm Design and Data Structures, Engineering Probability and Statistics, Databases, Compiler

Research Interests

Applied Mathematics

Theoretical Computer Science

Random Processes

Research Experience

Research Assistant

Tehran, Iran

COGNITIVE SYSTEMS LAB, UNIVERSITY OF TEHRAN

2020 (Nov) - present

- Working on different theoretical aspects of Reinforcement Learning.

Publications

Who to Learn from: A Preference-based Method for Social Reinforcement Learning

Reinforcement Learning

B.KARIMIAN, *E.MIRZAEI, *A.Mesbah, R.HOSSEINI, P.SHARIATPANAHI, M.NILI (* EQUAL CONTRIBUTION)

2022

- submitted to IEEE Transactions on Cognitive and Developmental Systems (TCDS). (Link)

Teaching Assistance Experience

Volunteer Teaching Assistant for Graduate Courses

University of Tehran

SCHOOL OF ELECTRICAL AND COMPUTER ENGINEERING, COLLEGE OF ENGINEERING, UNIVERSITY OF TEHRAN, TEHRAN, IRAN

2021 (Sep) - 2024 (Feb)

- TA of advanced courses like Distributed Optimization, Interactive Learning, Data Analysis.

Volunteer Teaching Assistant for Reinforcement Learning course

Sharif University of Technology

COMPUTER ENGINEERING DEPARTMENT, SHARIF UNIVERSITY OF TECHNOLOGY, TEHRAN, IRAN

2023 (Feb) - 2023 (May)

- Collaborating in designing theoretical problem sets for homework and designing final project

Skills

Theoretical Experience

Design of Algorithms, Data Structures, Databases, Probability and Statistics, Calculus, Optimization

Programming & Scripting

Python, SQL, HTML, CSS, JavaScript, Matlab, C, C++ and Java and \LaTeX

Libraries and Frameworks

PyTorch, Numpy, Pandas, BeautifulSoup, NLTK, Django and Flask

Projects

Reinforcement Learning (Link)

- Desinging personalized environments, Simulation of multi-agent RL and deep RL agents and multi-armed bandit algorithms.

Deep Learning & Machine Learning (Link)

- Simulation of federated learning algorithms, transformers, and machine learning algorithms.

Bio-Inspired Algorithms

- Python Simulation of bio-inspired algorithms like genetic algorithm, simulated annealing, and particle swarm optimization.

Neuroscience(Link)

- Simulation of different Neural Dynamic models of single cell, Evaluating Discrete-Time Neural Signals and Analyzing behavioral data of subjects collected by designing a Psychopy task.

Languages

English - TOEFL IBT (overall of 103 - R:30, L:28, S:21, W:24)

Fluent

Persian

Native

Turkish

Native