Amir Kooshan Fattah Hesari

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Education

Sharif University of Technology *Sept. 2022 – June 2027*
B.Sc. in Electrical Engineering (Comm. Systems) – GPA (last 2 yrs): 17.38/20

Alborz High School *2019 – 2022*
Diploma in Mathematics and Physics

– Affiliated with the National Organization for Development of Exceptional Talent (NODET)

Related Coursework

– Deep Reinforcement Learning (19/20)
– Deep Generative Models (20/20)
– Estimation Theory (19.8/20)
– High-Dimensional Probability (18.5/20)
– Convex Optimization (17.9/20)

Research Experience

Research Intern, CUHK *Onsite*
Supervised by Dr. Qiuqiang Kong *Jul. 2025 – Sep. 2025*

– Working on EEG-to-audio generation, leveraging flow-matching-based generative models to reconstruct and synthesize audio signals from neural activity.

Researcher, MLL Lab *Onsite*
Supervised by Dr. Mahdieh Soleymani Baghshah *Jan. 2026 – Sep. 2026*

– Worked on **Meta-Reinforcement Learning** methods for improving task generalization and enabling rapid adaptation to unseen environments.

Research Intern, RIML Lab *Onsite*
Supervised by Dr. Hadi Hoseini *Oct. 2026 – Present*

– Investigating adversarial attacks on **Combinatorial Multi-Armed Bandits (CMAB)**, with a focus on the robustness of online decision-making algorithms.

Publications

METTA: Memory-Enhanced Test-Time Adaptation for Meta-Reinforcement Learning
*Ali Najar, Hosein Hasani, **Amir Kooshan Fattah**, Yasamin Rajabi, Mahdieh Soleymani Baghshah*
under review at ICLR 2027

– Proposed a memory-enhanced meta-reinforcement learning framework that combines fine-grained within episode adaptation with compact cross-episode task representations.

Projects

HumanUp in UniLab
Robotics, UniLab, MuJoCo, Python

– Ported HumanUP's humanoid getting-up task from Isaac Gym to UniLab's CPU-simulation RL framework, removing the NVIDIA-GPU requirement.
– Code: github.com/AKooshan82/HumanUp-in-UniLab

Multi-Armed Bandits for Online Decision-Making
Python, NumPy, Pandas, Matplotlib, Git

– Implemented multi-armed bandit algorithms, including ϵ-Greedy, UCB, and Thompson Sampling, for exploration optimization.
– Evaluated algorithm performance under non-stationary environments and explored applications to financial decision-making and trading strategies.

Belief-Aware Waveform Control for ISAC-SLAM
Simultaneous mapping, Matlab, GNU Octave

- Developed belief-aware waveform control for ISAC-SLAM, where MIMO-OFDM transmit energy is chosen to maximize joint pose–map information while meeting a communication-rate requirement.

Honors and Awards

- **Nationwide University Entrance Exam (Konkur), 2022** – Ranked 155 out of more than 120,000 participants.

Teaching Experience

- **Reinforcement Learning** – Dr. Pourshamsaei, Fall 2025
- **Convex Optimization** – Dr. Amiri, Fall 2025
- **Estimation Theory** – Dr. Amiri, Spring 2026
- **Deep Reinforcement Learning** – Dr. Rohban, Spring 2026
- **Basic Programming** – Dr. Vahdat, Fall 2023 and Fall 2024
- **Object-Oriented Programming** – Dr. Vahdat, Spring 2024
- **Probability and Statistics** – Dr. Mojahedian, Fall 2024
- **Electrical and Electronic Circuits** – Dr. Koohi, Fall 2024, Fall 2025, and Spring 2026
- **Artificial Intelligence** – Dr. Rohban, Spring 2025
- **Artificial Intelligence** – Dr. Tanghatari, Spring 2025

Skills

Programming: Python (including NumPy, Pandas, SciPy, Scikit-learn, Matplotlib), Matlab,Java, object-oriented programming, C/C++

Machine Learning & Deep Learning: PyTorch, JAX, neural network training, model evaluation, feature engineering, experiment design, reinforcement learning, deep generative models

Robotics: ROS 2, Isaac Lab, Isaac Sim, MuJoCo, Drake, IMU interfaces (Inertial Measurement Units)

Languages

Persian (native), English (C2; TOEFL iBT 6.0/6), German (A2)