HAFEZ GHAEMI

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EDUCATION

Ph.D. | ***Computer Science*** Aug. 2023 – Present
Mila - Université de Montréal; **GPA:** 4.13/4.0 Montreal, QC, Canada

- **Advisors**: Eilif Muller, Shahab Bakhtiari; **Doctoral Committee:** Aaron Courville, Pascal Vincent

M.Sc. | ***Computer Engineering, AI and Robotics*** Sep. 2020 – Aug. 2023
University of Tehran; **GPA:** 18.0/20.0, North American: 3.72/4.0 Tehran, Iran

- **Advisors**: Hamed Kebriaei, Majid Nili; **Thesis**: Cumulative Prospect Theory in Multi-Agent Reinforcement Learning and Markov Games (paper) (code)

M.Sc. | ***Data Science and Engineering*** Sep. 2020 – July 2022
Politecnico di Torino; **GPA:** 26.3/30.0 (103/110), North American: 3.7/4.0 Turin, Italy

- **Advisors**: Fabio Fagnani, Giacomo Como; **Thesis**: Decentralized Value-Based Reinforcement Learning in Stochastic Potential Games (link) (code)

B.Sc. | ***Major: Mechanical Engineering, Minor: Computer Engineering*** Sep. 2016 – Sep. 2020
University of Tehran; **GPA:** 16.24/20.0, North American: 3.35/4.0 Tehran, Iran

- **Advisor**: Masoud Shariat Panahi; **Thesis**: Design and Implementation of A Smart Camera Slider Controller with Deep Reinforcement Learning (code)

PUBLICATIONS

- A. Saibene, **H. Ghaemi**, and E. Dagdevir, "Deep Learning in Motor Imagery Eeg Signal Decoding: A Systematic Review", Neurocomputing, 2024. (link)
- [AAMAS] **H. Ghaemi**, H. Kebriaei, A. R. Moghaddam, and M. Nili Ahamdabadi. "Risk-Sensitive Multi-Agent Reinforcement Learning in Network Aggregative Markov Games", Proceedings of the 23rd International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2024. (link), (preprint), (poster) (code)
- M. Nouri*, F. Moradi*, **H. Ghaemi***, A. M. Nasrabadi, "Towards real-world BCI: CCSPNet, a compact subject-independent motor imagery framework", Digital Signal Processing, 2023. *: equal contribution. (link), (preprint), (code)
- **H. Ghaemi***, E. Mirzaei*, M. Nouri*, and S. R. Kheradpisheh "BioLCNet: Reward-modulated Locally Connected Spiking Neural Networks", International Conference on Machine Learning, Optimization, and Data Science, 2022. *: equal contribution. (link), (preprint) (code)

PREPRINTS

- **H. Ghaemi**, S. Jamshidi, M. Mashreghi, M. Nili Ahmadabadi, and H. Kebriaei, "Risk Sensitivity in Markov Games and Multi-Agent Reinforcement Learning: A Systematic Review", arXiv:2406.06041, 2024. (link)

ACADEMIC SERVICE

- **Reviewed for:** [NeurIPS] - [IEEE-TCYB] - [IEEE-TSMC]

Experience

Teaching Assistant Fall 2024
Mila - Université de Montréal Montreal, QC, Canada
- Fundamentals of Machine Learning Course; instructors: Ioannis Mitliagkas, Dhanya Sridhar

Research Assistant Aug. 2023 – Present
Mila - Université de Montréal Montreal, QC, Canada
- Architectures of Biological Learning Lab (ABL); PI: Eilif Muller
- Systems Neuroscience and AI Lab (SNAIL); PI: Shahab Bakhtiari

Teaching Assistant Recurrent contracts since July 2023
NeuroAI and Computational Neuroscience Courses, Neuromatch Academy Remote

Teaching Assistant Feb. 2023 – July 2023
School of ECE, University of Tehran Tehran, Iran
- Neural Networks Course; instructor: Ahmad Kalhor
- Game Theory Course; instructor: Hamed Kebriaei

Research Assistant Oct. 2022 – Aug. 2023
School of ECE, University of Tehran Tehran, Iran
- Smart Networks Lab; PI: Hamed Kebriaei,
- Cognitive Systems Lab; PI: Majid Nili

Undergraduate Research Assistant Nov. 2019 – Aug. 2020
School of Mechanical Engineering, University of Tehran Tehran, Iran
- AI in Mechanical Engineering Lab; PI: Masoud Shariat Panahi

Summer Intern July 2019 – Sep. 2019
Biorobotics Lab, School of Mechanical Engineering, University of Tehran Tehran, Iran

Undergraduate Teaching Assistant Sep. 2019 – Jan. 2020
School of Mechanical Engineering, University of Tehran Tehran, Iran
- Materials Science Course; instructor: Ghader Faraji

Skills

Languages: English (fluent), Persian (native), French (intermediate), Italian (basic), Arabic (basic)
Programming (ordered by decreasing proficiency): Python, MATLAB, C/C++, Java, SQL, MongoDB, Julia, R
Deep learning frameworks (ordered by decreasing proficiency): PyTorch, Keras/TensorFlow, JAX
Miscellaneous: HPC, Git, microcontroller programming

Awards and Honors

Ranked 10 in the 25th Iranian Scientific Olympiad for University Students in Computer Engineering Feb. 2021

TOPoliTo Scholarship Oct. 2020 - Sep. 2022
Awarded to Politecnico di Torino's top international students

Iran's National Elites Foundation Membership Sep. 2016
Awarded for excellent performance in the Iranian University Entrance Exam