

HAFEZ GHAEMI

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Last updated: January 9, 2024

EDUCATION

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- 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*** 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

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- [[COSYNE](#)] **H. Ghaemi**, S. Bakhtiari*, E.B. Muller*. "Self-supervised predictive learning across saccades enables visual path integration", COSYNE 2025 Abstract. *: equal contribution. ([paper](#))
 - [[NeurIPS](#)] **H. Ghaemi**, E.B. Muller*, S. Bakhtiari*. "seq-JEPA: Autoregressive Predictive Learning of Invariant-Equivariant World Models", NeurIPS 2024 Workshop: Self-Supervised Learning - Theory and Practice. *: equal contribution. ([poster](#)) ([paper](#))
 - A. Saibene, **H. Ghaemi**, and E. Dagdevir, "Deep Learning in Motor Imagery Eeg Signal Decoding: A Systematic Review", Neurocomputing, 2024. ([paper](#)) ([preprint](#))
 - [[arXiv](#)] **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. ([arXiv](#))
 - [[AAMAS](#)] **H. Ghaemi**, H. Kebriaei, A. R. Moghaddam, and M. Nili Ahamdabadi. "Risk-Sensitive Multi-Agent Reinforcement Learning in Network Aggregative Markov Games", International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2024. ([poster](#)), ([paper](#)), ([arXiv](#)), ([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. ([paper](#)), ([arXiv](#)), ([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. ([paper](#)), ([arXiv](#)) ([code](#))

ACADEMIC SERVICE

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

EXPERIENCE

Teaching Assistant Mila - Université de Montréal	Fall 2024 Montreal, QC, Canada
• Fundamentals of Machine Learning Course; instructors: <u>Ioannis Mitliagkas</u> , <u>Dhanya Sridhar</u>	
Research Assistant Mila - Université de Montréal	Aug. 2023 – Present Montreal, QC, Canada
• Architectures of Biological Learning Lab (ABL); PI: <u>Eilif Muller</u> • Systems Neuroscience and AI Lab (SNAIL); PI: <u>Shahab Bakhtiari</u>	
Teaching Assistant NeuroAI and Computational Neuroscience Courses, <u>Neuromatch Academy</u>	Recurrent contracts since July 2023 Remote
Teaching Assistant School of ECE, University of Tehran	Feb. 2023 – July 2023 Tehran, Iran
• Neural Networks Course; instructor: <u>Ahmad Kalhor</u> • Game Theory Course; instructor: <u>Hamed Kebriaei</u>	
Research Assistant School of ECE, University of Tehran	Oct. 2022 – Aug. 2023 Tehran, Iran
• Smart Networks Lab; PI: <u>Hamed Kebriaei</u> • Cognitive Systems Lab; PI: <u>Majid Nili</u>	
Undergraduate Research Assistant School of Mechanical Engineering, University of Tehran	Nov. 2019 – Aug. 2020 Tehran, Iran
• AI in Mechanical Engineering Lab; PI: <u>Masoud Shariat Panahi</u>	
Summer Intern Biorobotics Lab, School of Mechanical Engineering, University of Tehran	July 2019 – Sep. 2019 Tehran, Iran
Undergraduate Teaching Assistant School of Mechanical Engineering, University of Tehran	Sep. 2019 – Jan. 2020 Tehran, Iran
• Materials Science Course; instructor: <u>Ghader Faraji</u>	

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 Awarded to Politecnico di Torino's top international students	Oct. 2020 - Sep. 2022
Iran's National Elites Foundation Membership Awarded for excellent performance in the Iranian University Entrance Exam	Sep. 2016