

# HAFEZ GHAEMI

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## 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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- [[NeurIPS](#)] **H. Ghaemi**, E.B. Muller, S. Bakhtiari, and M. Nili Ahmaddabadi. "seq-JEPA: Autoregressive Predictive Learning of Invariant-Equivariant World Models", NeurIPS 2024 Workshop: Self-Supervised Learning - Theory and Practice. \*: equal contribution. (In Press)
- 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 Ahmaddabadi. "Risk-Sensitive Multi-Agent Reinforcement Learning in Network Aggregative Markov Games", 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](#))

## UNDER REVIEW

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

## ACADEMIC SERVICE

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

## EXPERIENCE

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

## SKILLS

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**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

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<b>Ranked 10 in the 25th Iranian Scientific Olympiad for University Students in Computer Engineering</b>	Feb. 2021
<b><u>TOPoliTo Scholarship</u></b> Awarded to Politecnico di Torino's top international students	Oct. 2020 - Sep. 2022
<b>Iran's National Elites Foundation Membership</b> Awarded for excellent performance in the Iranian University Entrance Exam	Sep. 2016