



HAFEZ GHAEMI

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Areas of interest: bio-plausible and brain-inspired learning - neural networks and computational neuroscience - reinforcement learning and computational cognitive science

EDUCATION

M.Sc. | *Data Science and Engineering (Program taught in English)* Sep. 2020 – July 2022
Polytechnic University of Turin, Current GPA (64 of 110 ECTS): 25.3/30.0, 3.7/4.0 Turin, Italy

B.Sc. | *Major: Mechanical Engineering, Minor: Computer Engineering* Sep. 2016 – Sep. 2020
University of Tehran, Overall GPA: 16.24/20.0 (3.35/4.0), Major: 16.24 (3.3), Minor: 16.26 (3.4) Tehran, Iran

- **Thesis:** Design and Physical Implementation of a Smart Camera Slider Using Deep Reinforcement Learning (code), **Advisor:** Dr. Masoud Shariat Panahi

UNDER REVIEW

- **Ghaemi H**, Mirzaei E, Nouri M, Kheradpisheh SR. BioLCNet: Reward-modulated Locally Connected Spiking Neural Networks. Conference double-blind submission, arXiv preprint (code)
- Nouri M, Moradi F, **Ghaemi H**, Nasrabadi AM. Towards Real-World BCI: CCSPNet, A Compact Subject-Independent Motor Imagery Framework. Submitted to Journal of Biomedical Signal Processing and Control, arXiv preprint (code)

EXPERIENCE

Undergraduate Research Assistant November 2019 – August 2020
Artificial Intelligence in Mechanical Engineering Lab, University of Tehran Tehran, Iran

- Member of the project team developing a mobile application that monitors human neck posture using front camera input and head pose estimation.
- Principal investigator: Dr. Masoud Shariat Panahi

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

- Programming educational robots, design of dynamic mechanisms using CAD

Undergraduate Teaching Assistant September 2019 – January 2020
Materials Science Course, School of Mechanical Engineering, University of Tehran Tehran, Iran

- Lecturing, solving extra problems, grading homework
- Instructor: Dr. Ghader Faraji

SKILLS

Languages: English (fluent), Persian (native), Italian (basic), Arabic (basic)

Programming (ordered by decreasing proficiency): Python, MATLAB, C/C++, SQL, MongoDB, Julia, R, Java

Machine learning frameworks (ordered by decreasing proficiency): PyTorch, Scikit-Learn, Keras, Tensorflow

Other soft and hard skills: Linux, Git, Raspberry Pie, Arduino, Simulink, SolidWorks

CERTIFICATES

Reinforcement Learning Specialization (link) Coursera, University of Alberta & Alberta Machine Intelligence Institute	October 2021
Deep Learning Specialization (link) Coursera	May 2021
Graduate Record Examinations (GRE): Q: 170, V: 162, W: 4.00 (link) Educational Testing Service (ETS)	November 2019
IELTS Academic: R: 9.0, L: 8.0, W: 7.0, S: 7.0 International English Language Testing System	October 2021

SELECTED ACADEMIC PROJECTS

Music Genre Classification using CRNN and Transfer Learning (code) <i>PyTorch</i> Machine Learning and Deep Learning Course, Polytechnic University of Turin	Spring 2021
Comparison of ML methods for Facial and Emotional Recognition on JAFFE dataset (code) <i>Python</i> Mathematics in Machine Learning Course, Polytechnic University of Turin	Spring 2021
Stock Portfolio Management Using Deep Q-Learning (code) <i>PyTorch</i> Interactive Learning Course (Audit), University of Tehran	Spring 2020
Applications of Krylov methods, PCA, and SVD in real-world problems (code) <i>Python</i> Computational Linear Algebra Course, Polytechnic University of Turin	Fall 2021
Waterfilling Power Allocation and LZSS Lossless Compression (code) <i>MATLAB</i> Information Theory Course, Polytechnic University of Turin	Fall 2021
Price estimation on a Persian Online Cellphone Shop Dataset Using NLP (code) <i>Python</i> Artificial Intelligence Course, University of Tehran	Spring 2020
Object-oriented Design and Implementation of a Basic E-commerce Website (code) <i>C++</i> Advanced Programming Course, University of Tehran	Fall 2019

AWARDS

TOPolito Scholarship Awarded to Polytechnic University of Turin 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

RELEVANT COURSES

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| <ul style="list-style-type: none">• Machine Learning and Deep Learning (Graduate): 4/4• Mathematics in Machine Learning (Graduate): 4/4• Big Data (Graduate): 4/4• Computational Linear Algebra (Graduate): 4/4• Game Theory (Graduate): 4/4• Information Theory (Graduate): 3/4• Artificial Intelligence (Undergraduate): 4/4• Advance Programming (Undergraduate): 4/4 | <ul style="list-style-type: none">• Optimization of Mechanical Systems (Undergraduate): 4/4• Numerical Computation (Undergraduate): 4/4• Engineering Mathematics (Undergraduate): 4/4• Interactive (Reinforcement) Learning (Graduate): Audit• Introduction to Cognitive Science (Graduate): Audit• Computational Neuroscience (Graduate): Audit |
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PERSONAL INTERESTS

Podcasts, classic novels, psychological thrillers and hard sci-fis, philosophy, chess, coffee, travelling, meditation