



HAFEZ GHAEMI

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hafezghaemi.com



Last updated: November 1, 2021

Areas of interest: deep learning - reinforcement learning - spiking neural networks and computational neuroscience - computational cognitive science

EDUCATION

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| Master of Science <i>Data Science and Engineering (Program taught in English)</i> | Sep. 2020 – July 2022 |
| Polytechnic University of Turin, Current GPA (64 of 110 ECTS): 3.7/4.0, 25.3/30.0 | Turin, Italy |
| ASP Joint Degree <i>International Multidisciplinary Joint Program</i> | Feb. 2021 – July 2022 |
| Polytechnic University of Milan, Polytechnic University of Turin | Italy |
| <ul style="list-style-type: none">• Project: SMARTCARS, research and prototyping around the autonomous driving pipeline, in collaboration with Huawei (repo), Advisors: Dr. Umberto Spagnolini, Dr. Massimo Violante | |
| Bachelor of Science <i>Major: Mechanical Engineering, Minor: Computer Engineering</i> | Sep. 2016 – July 2020 |
| University of Tehran, Major GPA: 16.24/20.0, 3.3/4.0, Minor GPA: 16.26/20.0, 3.4/4.00 | Tehran, Iran |
| <ul style="list-style-type: none">• Thesis: Design and Physical Implementation of a Smart Camera Slider Using Deep Reinforcement Learning (code), Advisor: Dr. Masoud Shariat Panahi | |

UNDER REVIEW

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- Ghaemi H, Mirzaei E, Nouri M, Kheradpisheh SR. BioLCNet: Reward-modulated Locally Connected Spiking Neural Networks., [arXiv preprint](#) ([code](#))
 - Nouri M, Moradi F, Ghaemi H, Nasrabadi AM. Towards Real-World BCI: CCSPNet, A Compact Subject-Independent Motor Imagery Framework., [arXiv preprint](#) ([code](#))

EXPERIENCE

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| Undergraduate Research Assistant | November 2019 – August 2020 |
| Artificial Intelligence in Mechanical Engineering Lab, University of Tehran | Tehran, Iran |
| <ul style="list-style-type: none">• Member of the project team developing a mobile application that monitors human neck posture using front camera input and head pose estimation. | |
| Summer Intern | July 2019 – September 2019 |
| Biorobotics Lab, School of Mechanical Engineering, University of Tehran | Tehran, Iran |
| <ul style="list-style-type: none">• 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 |
| <ul style="list-style-type: none">• Lecturing, solving extra problems, grading homework | |

SKILLS

Languages: English (bilingual proficiency), Italian (elementary proficiency), Arabic (elementary proficiency), Persian (native)

Programming (ordered by decreasing proficiency): Python, MATLAB, C/C++, SQL, MongoDB, 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 20019

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
Master's program full tuition waiver Awarded to Polytechnic University of Turin ASP 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 | <ul style="list-style-type: none">• Advance Programming (Undergraduate): 4/4• Optimization of Mechanical Systems (Undergraduate): 4/4• Numerical Computation (Undergraduate): 4/4• Engineering Mathematics (Undergraduate): 4/4• Interactive 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