Alireza Dizaji

Curriculum Vitae

Tehran
Iran
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Born on March 17th 1999 - Tehran, Iran

Education

2013–2017 **Diploma**, *Allame Amini*, *19.83 out of 20*.

Sep 2017–Oct 2022 **BSc. Computer Engineering**, *Sharif University of Technology*, Tehran, *17.93 out of 20, Last eight semesters' avg. : 18.53 out of 20*.
Thesis: Tumor detection in mammography screening using semi-supervised methods, under the supervision of prof. Rabiee (Grade 19.8/20)

Honors and Rewards

2017 Ranked 37th among 350k participated students in Iran national university entrance exam, called Konkur, Physics and mathemtics field.

2017-Present Membership, at iranian national elites foundation

Research Experience

Dec. 2022 - Present **Undergraduate Research Assistant**, *Technical University of Munich*, Germany.
After my research internship, I got an offer to work on *spatial-temporal skeleton pose action recognition*, using Graph Neural Networks.

May 2022 - Nov. 2022 **Research Intern**, *Technical University of Munich*, Germany.
Several explainer methods have been developed to perceive the functionality of graph neural networks, though currently there is a lack of fair evaluation among them. Through this project, I have been collaborating to provide a new benchmark to assess and compare these SOTA explainability methods, under the co-supervision of Prof. Navab and Prof. Rueckert. (**Submitted to CVPR 2023**).

April 2021 - present **R&D scientist**, *Comma-Med (former known as AI-Med)*, Iran, Full-time.
Under the supervision of Prof. Rabiee, our main goal is to provide an AI assistant product for mammography screening process. I have contributed to a huge project containing multiple sub-branches, including pre and post-image processing, malignancy classification, and lesion segmentation, using mostly weakly and semi-supervised methods due to insufficient annotated data. Mentorship and management of interns are another part of my responsibilities. In addition, For some reasons including making run-time faster, I have transported our python codes to C++, using Libtorch. In general, we have **submitted one paper to CVPR 2023** and there is another one **in the writing process for Radiology Journal**.

August 2020 - March 2021 **Undergraduate research assistant**, *Sharif University of Technology*, Iran.
My main responsibility is to research and develop applications of contrastive learning approaches to better assess the movement of an agent within a maze, at (@DML).

Teaching Experience

Sep 2019 - Sep 2021 **Teaching Assistant**, *Computer Engineering department Sharif university*, Tehran. In the following, I have listed full of them:

- **Machine learning** (M.Sc. course), Dr. Rohban: spring 2021; Designing one homework and final exam questions both covering reinforcement learning subject.
- **Modern information retrieval**, Dr. Soleymani: spring 2021; I prepared materials for the text classification homework.
- **Artificial intelligence**, Dr. Rohban: fall 2020; Same as machine learning, preparing the last homework in the field of reinforcement learning.
- **Linear algebra**, Prof. Rabiee: fall 2020; designing and mentoring homework for covering eigenvalues and eigenvectors subject
- **Computer architecture**, Prof. Asadi: spring 2020; contributed to project definition covering pipelining , storage and I/O subjects.
- **Data structures and algorithms**, Dr. Safarnezhad: spring 2020; Grading final and mid-term exam sheets.

Related Courses

- Convolutional Neural Networks for Visual Recognition (audited, online Stanford)
- Machine Learning (audited, online Stanford)
- Artificial Intelligence (20/20)
- Intro to BioInformatics(20/20)
- Data Structures and Algorithms (20/20)
- Linear Algebra (18.3/20)
- Modern Information Retrieval (17.7/20)
- Software Engineering (18.5/20)
- Database Design (18.7/20)
- Design of Algorithms (17/20)

Licenses and Certifications

Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization, *Coursera*, Grade Achieved: 90%, Click here to see credential .

Convolutional Neural Networks, *Coursera*, Grade Achieved: 97%, Click here to see credential .

Introduction to Data Science in Python, *Coursera*, Grade Achieved: 90%, Click here to see credential .

Research Interests

- **Computer Vision, Geometric Deep Learning, Explainable ML, Optimization**

Computer Skills

Programming: Python, C++, Latex, Java, JavaScript, Android, MySQL

Libraries: Pytorch, Libtorch, Keras, Tensorflow, Pandas, Scikit-learn, NumPy, Seaborn, OpenCV