



**Shahid Rajaei  
Teacher Training University (SRTTU)**

To whom it may concern,

I am providing this letter in support of Alireza AkhavanPour's application. I have known Alireza since September 2013 when he requested to join my research group. Alireza carried out a project entitled "A Comparative Study of Varying Parameters in Invariant Object Recognition at Behavioral and Computational-Cognitive Model Level ". During his thesis, Alireza generated an object image dataset which allowed us to study invariant object recognition in humans using behavioural testing. The richness of the image set allowed us to manipulate object variations and evaluate object recognition performance on different computational models of human vision including HMAX, VisNet and convolutional neural network (CNN). He reimplemented the well-known VisNet model which was later used in our lab also by other researchers and he was also the first student who used deep learning frameworks in my lab which was followed by many later researchers. In addition, he took four courses (Machine learning, Neural Networks, Computer Vision, and Seminar) with me during his study. His performance was significantly above his classmates which provided him with A+ marks in all of these courses.

He held several workshops about deep learning and computer vision frameworks for students and he has been my TA for the graduate course "Machine Learning" for several terms. He did an excellent job and showed deep understanding of the topic. He was always keen to fulfill his duties as a TA and was willing to provide guidance and support to students. Additionally, he is very organized with exemplary punctuality. He was also a TA for other courses in our department.

After graduation, he had some collaborations in part-time research projects related to machine learning and deep learning under my supervision because of his outstanding capabilities. Face recognition is one of his most important practical projects he was involved in. He was also in charge of cooperation with the projects of object recognition in terms of occlusion, classifying the MS patients, and identifying urinary cells under my supervision.

Since 2016, Alireza has started teaching at the undergraduate level as a lecturer in the department. He has been teaching courses such as Basics of Computer Vision, Advanced Deep Learning, and Python for Data Science. The students who took the courses of deep learning and machine vision with Alireza have achieved great practical skills. He is currently the advisor of project courses and many undergraduate students receive help from him on projects related to machine learning.

He has always been a committed and motivated student with perfect programming and implementation skills. In addition, he has a full mastery in theoretical and practical topics of deep learning and related programming frameworks. Alireza is a self-starter, self-motivated, and a perseverant individual who never gives up in the face of hardships and I heartedly recommend him for this doctoral program.


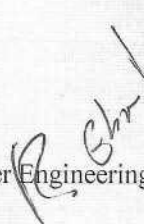
Please do not hesitate to contact me if you need any further information.

Sincerely Yours,

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دانشکده مهندسی کامپیوتر





**Shahid Rajaee  
Teacher Training University (SRTTU)**

To whom it may concern,

Hereby, I present my greatest supports in admitting Mr. Alireza AkhavanPour to study at doctoral level.

I was the advisor of his bachelor's thesis entitled "Designing and Implementing Customer Clustering in a Store". In addition, I was the head of software engineering department during his undergraduate and postgraduate programs at Shahid Rajaee University. During this period, he was one of the most committed, hardworking, talented and motivated students at the department. He took some courses with me during the undergraduate and postgraduate levels and received top grades in all those courses. At the undergraduate level, he passed the courses "Computer and Programming Basics", "Data Structure", "Software Engineering 1" and "Database Design Principles" with the scores of 20, 19, 19.5 and 18.5 out of 20. Furthermore, he passed the "Data Mining" course at postgraduate level with great diligence and endeavor and was ranked among the top students in all those courses. Due to my full satisfaction with him, he was the TA for Data Structure and Database Design courses. After graduation, he taught the courses of "Introduction to Computer and Programming", "Advanced programming", "Python's Lab for Data Science", as well as some courses such as "Computer Vision and Deep Learning" and "Advanced Deep Learning" as a lecturer at the undergraduate level with the approval of the administration of education. He was selected as one of the excellent lecturers in a survey conducted by students. In addition, he was evaluated as highly satisfactory according to the educational department of the faculty in terms of skills and mastery in the subjects taught to the students. He is a very committed and motivated person who carries out the assigned tasks with a praiseworthy motivation and interest. Commitment, perseverance, and earnestness in performing his tasks both in educational tasks such as studying, researching and conducting projects and in the courses taught by him. I have never been concerned about pursuing the tasks assigned to him but have always been sure of his best endeavor and success in the assigned tasks.

According to my best knowledge of Mr. Alireza AkhavanPour about his great interest in doing research and providing scientific support, commitment and dedication, I highly recommend him for the admission at doctoral level in your university. I believe he will be a positive member of your lab and will significantly contribute to your research and educational goals of your university.

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To whom it may concern

It is of my great pleasure to recommend Mr Alireza AkhavanPour for your graduate program. I came to know him in 2013, when I was the consulting advisor on his Seminar course and Master Thesis in Shahid Rajaei University, in which he performed exceptionally brilliant. I have been supervisor/advisor on the theses of five Master/PhD students so far but none of them could even come close to Alireza's well-rounded skill sets and determination in research.

During his Thesis, he was very active and enthusiastic and demonstrated himself as a talented and ingenious student. We published a full conference paper entitled "Comparison of Background- and Variation-imposed Object Recognition Performance between Human and a Modern Computational Model of Vision" in 2015, at the 9th Iranian Machine Vision and Image Processing which gained great reception by the conference participants. The paper compared human performance against one of the earliest second-generation Convolutional Neural Networks (CNN) 'AlexNet' on a battery of behavioural tasks, to see how the two systems cope with variations of objects when the objects undergo variations in size, position, pose, etc. This was the earliest work done in our lab with CNNs, which paved the way for many following efforts in that directions in the lab.

Since then, he has consistently improved and proved his mounting capabilities in Machine Vision and Deep Learning by holding many courses and workshops on the same topics at Shahid Rajaei University and across top Iranian universities including Sharif University of Technology, the leading Iranian university in technology. This supports his ambitious thinking and strong analytical and programming abilities, which is crucial to every serious project - a commendable result which I am sure he will repeat and improve on his track. We are still collaborating on projects and he is a leading researcher in one of my ongoing projects which aims at quantitatively comparing the neural representations of 5000 naturalistic images obtained from fMRI ('known as BOLD5000 dataset') and a large (N=14) set of state-of-the-art CNNs including ResNet, SENet, PNASNet, etc. Alireza's role is implementing the mentioned CNNs, obtaining their representations at the output of each layer and comparing them with the fMRI representations using Representational Similarity Analysis.

In summary, I believe that Alireza has all the requirements for becoming a dominant researcher in the field. Based on his superior intelligence and diligence, I am sure he will be an excellent candidate in your institute, so I strongly recommend him for your program.

Please feel free to contact me if you would like further information.

Yours sincerely,

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