Shayan Shekarforoush

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Education

2015–present **Bachelor of Science in Computer Engineering**, *Sharif University of Technology*, Tehran, Iran, GPA:4/4 (19.74/20).
Related Courses: Signal Processing (20/20), Probability and Statistics (20/20), Linear Algebra (19.8/20), Regression Analysis (20/20), Stochastic Processes (20/20), Artificial Intelligence (20/20), Introduction to Machine Learning (20/20), Information Theory (Graduate Course) (20/20).

2011–2015 **Diploma in Mathematics and Physics**, *Allameh Helli 1 Highschool*, Tehran, Iran, GPA:19.87/20.
Affiliated with the National Organization for the Development of Exceptional Talents (NODET).

Research Interests

Deep Learning and Graph Learning

Computer Vision and Medical Imaging

Publications

Conference

A. Kazi, **S. Shekarforoush**, S.A Krishna, H. Burwinkel, G. Vivar, B. Wiestler, K. Kortuem, SA. Ahmadi, S. Albarqouni and N. Navab, *"Graph Convolution Based Attention Model for Personalized Disease Prediction"*, **Accepted in MICCAI 2019**.

A. Kazi, **S. Shekarforoush**, S.A. Krishna, H. Burwinkel, G. Vivar, K. Kortuem, SA. Ahmadi, S. Albarqouni and N. Navab, *"InceptionGCN : Receptive Field Aware Graph Convolutional Network for Disease Prediction"*, **Accepted in IPMI 2019**, Oral Presentation **(7% Acceptance rate)**.

A. Kazi, S.Arvind Krishna, S. **S. Shekarforoush**, K. Kortuem, S. Albarqouni and N. Navab, *"Self-Attention Equipped Graph Convolutions for Disease Prediction"*, **Accepted in ISBI 2019**, Oral Presentation.

Poster

E. Heidari, **S. Shekarforoush**, L. Haghverdi and W. Huber, *"Cell-type Identification in Single-cell RNA Sequencing Based on Gene Interaction Networks"*, **Accepted in ISMB/EECB 2019** .

Research Experience

July 2018–present **Visiting Student (Summer Intern and Remote Collaboration)**, *Chair for Computer Aided Medical Procedures & Augmented Reality (CAMPAR), Technical University of Munich (TUM)*, Munich, Germany, Under supervision of Prof. Dr. Nassir Navab.

Research on Graph Convolutional Networks (GCNs) and proposing new network architectures applied on medical datasets like ABIDE, PPMI and ADNI for the problem of disease prediction of patients as a classification problem.

April 2018–Present **Research Assistant**, *Machine Learning Lab (MLL), Sharif University of Technology*, Tehran, Iran, Under supervision of Dr. Soleymani.

1. Working on a locally collected mammogram medical dataset using Convolutional Neural Networks (CNNs) for detecting asymmetricity and mirco-calcification in order to help doctors with diagnosis of breast cancer.
2. Working on a publicly available EEG data to classify subjects based on their arrousal using signals. The main approach is to solve this problem using multilayered graph convolutional networks.

Volunteer Experience

December 2018-Present **Scientific Member**, *Sharif Datadays National Competition (with more than 500 teams participated)*, Based on advertising data gathered from Divar.ir platform, we designed some problems which could be solved by Machine Learning and Deep Learning techniques.

This is the first data scientific event held by sharif university consists of different levels and stages in which teams are competing with each other. Its main goal is to broaden appeal for working on problems related to data. Moreover, it is a large-scale attempt to assess the level of knowledge in this field in Iran.

Working Experience

Aug 2017–Sep 2017 **Data Scientist**, *Yektanet*, Tehran, Iran, Developing a Classification platform in Python for farsi web pages in order to improve the quality of advertisement.

This platform processes each farsi web page as input (by receiveing its url or text directly) and outputs a vector indicating the correlation of the page with pre-defined subjects. In this project, a valuable database of farsi pages is also produced by web crawling.

Teaching Experience

Spring 2019 **Teaching Assistant**, *Deep Learning (Graduate Course) at CE Department*, Sharif University of Technology, Dr. Soleymani.

Spring 2019 **Teaching Assistant**, *Information Theory (Graduate Course) at CE Department*, Sharif University of Technology, Dr. Motahari.

Spring 2019 **Teaching Assistant**, *Compiler Design at CE Department*, Sharif University of Technology, Dr. Ghassem-Sani .

Fall 2018 **Teaching Assistant**, *Stochastic Processes (Graduate Course) at CE Department*, Sharif University of Technology, Dr. Motahari.

Fall 2018 **Teaching Assistant**, *Linear Algebra at CE Department*, Sharif University of Technology, Dr. Motahari.

Spring 2018 **Teaching Assistant**, *Probability and Statistics for Computer Engineering at CE Department*, Sharif University of Technology, Dr. Peyvandi.

Spring 2018 **Teaching Assistant**, *Theory of Langauges and Automata at CE Department*, Sharif University of Technology, Prof. Dr. Movaghar.

Fall 2017 **Teaching Assistant**, *Probability and Statistics for Computer Engineering at CE Department*, Sharif University of Technology, Dr. Motahari.

Fall 2017 **Teaching Assistant**, *Data Structures and Algorithms at CE Department*, , Sharif University of Technology, Prof. Dr. Ghodsi.

Fall 2016 **Teaching Assistant**, *Fundamentals of Programming with C for Computer Engineering at CE Department*, Sharif University of Technology, Dr. Gheybi.

Awards and Honors

Spring 2019 **Ranked 2nd based on GPA among all Bachelors of Computer Enigneering Department entered at 2015**.

Summer 2018 **Accepted for International Undergraduate Excellence Awards**.
Summer 2019 These awards are offered by the Chair for Computer Aided Medical Procedures (CAMP) to strongly motivated international undergraduate students interested in improving their research skills in machine learning, medical imaging, computer vision and/or augmented reality.

Summer 2015 **Ranked 92nd among more than 180,000 participants of National Universities Entrance Exam**.
Ranked 53rd among participants in first region.

2015-2018 **Member of Iranian National Elites Foundation**.

2008–2015 **Member of The National Organization for Development of Exceptional Talents (NODET)**.

Computer Skills

Proficient with	Python, Tensorflow
Programming Languages	C/C++, Java, Matlab, Verilog
Familiar with	R, Django, Pascal, Scheme
Operating Systems	OS X, Linux, Windows
Other Computer tools	PostgreSQL, Git, Terminal, LaTeX

Languages

Persian	Native
English	Toefl iBT: 108 (Reading: 28 Listening: 29 Speaking: 22 Writing: 29)