

Amin Fadaeinejad

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EDUCATION

University of Tehran, Tehran, Iran

Sep. 2016 - Jan. 2021(expected)

○ B.Sc in Electrical Engineering (Control)

GPA: 18.71/20 (3.91/4)

Rank 3rd out of approximate 110 undergraduate students

○ Minor in Computer Engineering

Sep. 2018 - Jan. 2021(expected)

Passed a number of courses in Computer Engineering

GPA: 18.08/20 (4/4)

Allameh Helli High school, Kerman, Iran

Sep. 2012 - Jun. 2016

Diploma in Mathematics and Physics' Discipline

Affiliated with the National Organization for the Development of Exceptional Talents (NODET)

RESEARCH INTERESTS

○ Machine Learning

○ Deep Learning

○ Machine Vision

○ Signal Processing

HONORS AND AWARDS

○ Ranked 3rd out of approximate 110 undergraduate students (Ranked 2nd in Control Engineering), school of Electrical and Computer Engineering(till now), University of Tehran

○ Member of Iran's National Elites Foundation

Sep. 2016 - Present

○ Ranked 394th among more than 156,000 participants in Nationwide Universities Entrance Exam (B.Sc.).

Sep. 2016

○ Passing the first stage of Physics Olympiad for two years

Jan. 2014 & Jan. 2015

○ Ranked 23rd in Sharif National Student Competition

Mar. 2015

○ Ranked 3rd in the country at the second stage of Paya Scientific League in physics

Jun. 2015

RESEARCH EXPERIENCE

B.Sc. Thesis

Summer & Fall 2020

○ B.Sc Final Project (Currently working on)

- Automatic number-plate recognition systems.

- Implementing a new method or a proper network architect for the color and car model classification.

Instructor: [Dr. Reshad Hosseini](#) ↗

Internship

○ [HARA](#)¹:

Summer 2019

- Implementing a Persian speech to text network with Persian data set (from Mozilla).

- Learning [Deep Speech](#), pytorch and other frameworks for the model.

- Learning the basics of mathematics and theory behind the language model and acoustic model.

- Using Python libraries such as Librosa, SpaCy, and ... in the process.

Instructor: [Dr. Reshad Hosseini](#) ↗

○ [Taarlab](#)²

Summer 2018

- Learning how to receive feedback data from [Sanbot](#)

- Learning the basics of how to work with android studio.

Instructor: [Dr. Mehdi Tale Masouleh](#) ↗

¹HARA is an AI start-up company based in Tehran engaged in applying state-of-the-art machine learning, natural language processing and computer vision techniques to commercial domains.

²Human and Robot Interaction Laboratory always uses new approaches to communicate with other research centers and researchers.

RELEVANT COURSES (Graduate courses are indicated by *)

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| ○ Deep Learning with applications ^{3*} 19/20
<i>Instructor: Dr. Reshad Hosseini</i> ↗ Spring 2020 | ○ Algorithm Design 1 19.9/20
<i>Instructor: Dr. Hamid Mahini</i> ↗ Fall 2019 |
| ○ Pattern Recognition * 20/20
<i>Instructor: Prof. Babak N. Araabi</i> ↗ Spring 2019 | ○ Data Structures 17.6/20
<i>Instructor: Dr. Fathiyeh Faghih</i> ↗ Spring 2019 |
| ○ Machine Vision * (to be taken) TBA
<i>Instructor: Dr. Reshad Hosseini</i> ↗ Fall 2020 | ○ Operational Research 20/20
<i>Instructor: Mohammad Shokri</i> ↗ Fall 2019 |
| ○ Linear Algebra 19.25/20
<i>Instructor: Dr. Farzad Rajaei salmasi</i> ↗ Spring 2019 | ○ Advanced Programming 17.9/20
<i>Instructor: Dr. Ramtin Khosravi</i> ↗ Fall 2019 |
| ○ Digital Signal Processing (to be taken) TBA
<i>Instructor: Dr. Majid Badieirostami</i> ↗ Fall 2020 | ○ Discrete Mathematics 18.75/20
<i>Instructor: Dr. Siamak Mohammadi</i> ↗ Fall 2018 |
| ○ Engineering Probability and Statistics 19.5/20
<i>Instructor: Dr. Amir Masoud Rabiei</i> ↗ Fall 2017 | ○ Mechatronics ⁴ 20/20
<i>Instructor: Dr. Mehdi Tale Masouleh</i> ↗ Spring 2019 |

COURSE PROJECTS (The GitHub's codes are hyperlinked)

Deep Learning with Application Course Projects [\[GitHub\]](#) *Spring 2020*

- Implementing the [Hierarchical Multi-Scale Attention Network](#) for semantic segmentation using Pytorch library. [\[GitHub\]](#)
- Implementing 2 layers of [Deep-RBFNetwork with robust classification and rejection](#) and an adversarial attack using FGSM method from scratch just by using NumPy and pandas libraries. [\[GitHub\]](#)
- Implementing [Human Pose Estimation](#) with CNN(AlexNet) using Pytorch library. [\[GitHub\]](#)
- Implementing an Anomaly Detection network with auto encoders using Pytorch library [\[GitHub\]](#)
- Implementing Sentimental Analysis network with unidirectional, bidirectional and pyramid LSTM networks using Pytorch library. [\[GitHub\]](#)
- Tuning a pre-trained BERT model over a new data set using Pytorch library. [\[GitHub\]](#)
- Implementing the encoder section of the [Transformer Network](#) for speech recognition using Pytorch libraries. [\[GitHub\]](#)

Pattern Recognition Course Projects [\[GitHub\]](#) *Spring 2019*

- Implementing Parametric and Non-parametric PDF Estimation Algorithms using NumPy. [\[GitHub\]](#)
- Implementing the Expectation-Maximization (EM) Algorithm for Gaussian Mixture Density Model using NumPy. [\[GitHub\]](#)
- Implementing Dimensionality Reduction Algorithms(PCA,LDA) using NumPy. [\[GitHub\]](#)
- Implementing Classifiers such as Bayes' Optimal Classifier, SVM using NumPy. [\[GitHub\]](#)
- Implementing Classifier such as MLP/RBF Networks using NumPy. [\[GitHub\]](#)
- Implementing various Clustering Algorithms such as Agglomerative Hierarchical, Sequential, and k-means using NumPy. [\[GitHub\]](#)

Systems Analysis Course Projects [\[GitHub\]](#) *Spring 2018*

- Image Compression with encoder, decoders using MATLAB. [\[GitHub\]](#)




TEACHING EXPERIENCE

Teaching Assistant, University of Tehran

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|---|--|
| ○ Pattern Recognition [Grad Course]
Teaching Assistant Fall 2019
<i>Instructor: Prof. Babak N. Araabi</i> ↗ | ○ Introduction to Computing systems and programming
Teaching Assistant Fall 2018
<i>Instructor: Dr. Manouchehr MoradiSabzevar</i> ↗ |
| ○ Engineering Probability and Statistics
Teaching Assistant Fall 2019
<i>Instructor: Dr. Behnam Bahrak</i> ↗ | ○ Intelligent Systems
Head Teaching Assistant Fall 2020
Teaching Assistant Fall 2019
<i>Instructor: Dr. Reshad Hosseini</i> ↗ |
| ○ Linear Algebra
Teaching Assistant Spring 2020
<i>Instructor: Prof. Mohammad Javad Yazdanpanah</i> ↗ | ○ Discrete Mathematics |

³Name in transcript: Deep learning with application in machine vision and audio processing

⁴Name in transcript: Fundamentals of Mechatronics Engineering

Teaching Assistant	Spring 2020	Instructor: Dr. Mehdi Tale Masouleh 	
Instructor: Dr. Siamak Mohammadi 		o Operational Research	
o Engineering Mathematics		Teaching Assistant	Fall 2020
Head Teaching Assistant	(4 Semesters ⁵)	Instructor: Mohammad Shokri 	

Lecturer, Kerman's High schools

- o Volunteered to teach physics to students attending Olympiad and University entrance exam.




SKILLS

- o **Programming**
 - Proficient in C/C++, Python, MATLAB, Verilog, ARM, L^AT_EX
 - Familiar with HTML, CSS, Java
- o **Frameworks, Softwares and Libraries**
 - Pytorch, NumPy, scikit-learn, Deep Speech, Modelsim, Quartus II, Multisim, Proteus

LANGUAGES

- o Persian: Native
- o English: Fluent, **TOEFL iBT**(Will be taken) **GRE**(Will be taken)

REFERENCES (All the mentioned instructors have a hyperlink)

- o Dr. Reshad Hosseini
 - PhD Graduated from Technical University of Berlin
 - Email:  reshad.hosseini@ut.ac.ir
 - Website: <https://ece.ut.ac.ir/en/~reshad.hosseini>
- o Dr. Mehdi Tale Masouleh
 - PhD Graduated from Laval University
 - Email:  m.t.masouleh@ut.ac.ir
 - Website: <https://ece.ut.ac.ir/en/~m.t.masouleh>
- o Prof. Babak N. Araabi
 - PhD Graduated from Texas A&M University
 - Email:  araabi@ut.ac.ir
 - Website: <https://ece.ut.ac.ir/en/~araabi/>

For others available upon request

⁵Fall 2019 & 2018, Spring 2019 & 2020