

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

○ Pattern Recognition

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 car property detection system.

- 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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|---|-------------|---------------------------------------|-------------|
| o Deep Learning with applications ^{3*} | 19/20 | o Algorithm Design 1 | 19.9/20 |
| Instructor: Dr. Reshad Hosseini ☞ | Spring 2020 | Instructor: Dr. Hamid Mahini ☞ | Fall 2019 |
| o Pattern Recognition ^{*4} | 20/20 | o Data Structures | 17.6/20 |
| Instructor: Prof. Babak N. Araabi ☞ | Spring 2019 | Instructor: Dr. Fathiyeh Faghih ☞ | Spring 2019 |
| o Machine Vision* (current semester) | TBA | o Operational Research | 20/20 |
| Instructor: Dr. Reshad Hosseini ☞ | Fall 2020 | Instructor: Mohammad Shokri ☞ | Fall 2019 |
| o Linear Algebra | 19.25/20 | o Advanced Programming | 17.9/20 |
| Instructor: Dr. Farzad Rajaei salmasi ☞ | Spring 2019 | Instructor: Dr. Ramtin Khosravi ☞ | Fall 2019 |
| o Digital Signal Processing (current semester) | TBA | o Discrete Mathematics | 18.75/20 |
| Instructor: Dr. Majid Badieirostami ☞ | Fall 2020 | Instructor: Dr. Siamak Mohammadi ☞ | Fall 2018 |
| o Engineering Probability and Statistics | 19.5/20 | o Mechatronics ⁵ | 20/20 |
| Instructor: Dr. Amir Masoud Rabiei ☞ | Fall 2017 | Instructor: Dr. Mehdi Tale Masouleh ☞ | Spring 2019 |

COURSE PROJECTS (The GitHub's code are hyperlinked)

Machine Vision Course Projects (Current Semester) [GitHub] Fall 2020

- o Analyzing images in the frequency domain, implementing Histogram Equalization, and Gaussian Image Pyramid resampling method. [GitHub]

Deep Learning with Application Course Projects [GitHub] Spring 2020

- o Implementing the Hierarchical Multi-Scale Attention Network for semantic segmentation using Pytorch library. [GitHub]
- o 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]
- o Implementing Human Pose Estimation with CNN(AlexNet) using Pytorch library. [GitHub]
- o Implementing an Anomaly Detection network with auto encoders using Pytorch library [GitHub]
- o Implementing Sentimental Analysis network with unidirectional, bidirectional and pyramid LSTM networks using Pytorch library. [GitHub]
- o Tuning a pre-trained BERT model over a new data set using Pytorch library. [GitHub]
- o Implementing the encoder section of the Transformer Network for speech recognition using Pytorch libraries. [GitHub]

Pattern Recognition Course Projects [GitHub] Spring 2019

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

Systems Analysis Course Projects [GitHub] Spring 2018

- o Image Compression with encoder, decoders using MATLAB. [GitHub]

TEACHING EXPERIENCE

Teaching Assistant, University of Tehran

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|-------------------------------------|--|
| o Pattern Recognition[Grad Course] | o Engineering Probability and Statistics |
| Teaching Assistant | Teaching Assistant |
| Instructor: Prof. Babak N. Araabi ☞ | Instructor: Dr. Behnam Bahrak ☞ |
| Fall 2019 | Fall 2019 |
| | o Linear Algebra |

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

⁴Has the same syllables as the Machine learning course in other universities.

⁵Name in transcript: Fundamentals of Mechatronics Engineering

Teaching Assistant	Spring 2020	o Discrete Mathematics	Teaching Assistant	Spring 2020
Instructor: Prof. Mohammad Javad Yazdanpanah			Instructor: Dr. Siamak Mohammadi	
o Introduction to Computing systems and programming		o Engineering Mathematics		(4 Semesters ⁶)
Teaching Assistant	Fall 2018	Head Teaching Assistant		
Instructor: Dr. Manouchehr MoradiSabzevar		Instructor: Dr. Mehdi Tale Masouleh		
o Intelligent Systems		o Operational Research		
Head Teaching Assistant	Fall 2020	Teaching Assistant		Fall 2020
Teaching Assistant	Fall 2019	Instructor: Mohammad Shokri		
Instructor: Dr. Reshad Hosseini				

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, \LaTeX
 - Familiar with HTML, CSS, Java
- o **Frameworks, Softwares and Libraries**
 - Pytorch, NumPy, OpenCV(python & C++), scikit-learn, Deep Speech, Modelsim, Quartus II, Multisim, Proteus

LANGUAGES

- o Persian: Native
- o English: Fluent, **TOEFL iBT**(Will be taken on 29th November) **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

⁶Fall 2019 & 2018, Spring 2019 & 2020