

Personal Information

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Status and Birth: Married, 19 October 1995

Education

- 2014–2018 **Bachelor of Science in Electrical Engineering**, *University of Tehran*.
Program of Study:Telecommunication
GPA: 17.32/20
- 2010–2014 **Diploma in Mathematics and Physics Discipline**, *Amir High School*.
GPA: 19.87/20

Areas of Interest

Signal and Image Processing,Wireless Communications and Computer Vision
Machine Learning, Deep learning, Reinforcement Learning, Pattern Recognition

Notable Courses

- 2018 **Deep Learning Summer School**, *An introduction to different loss functions and optimizers, CNN, RNN, LSTM, GRU, GAN, some learning tricks such as regularization and dropout, deep learning architectures, ...*, at University of Tehran.
- 2018 **The Lean Startup**, *Nasser Ghanemzadeh*.

Relevant Courses and Grades

Introduction to Computer and programming, 17.5/20.
Pattern Recognition(Graduate), *Audited*.
Stochastic Processes(Graduate), *Audited*.
Advanced Programming, *Audited*.
Calculus II, 19.25/20.
Numerical Computation, 18/20.
Engineering Probability and Statistics, 19.9/20.
Systems Analysis, 17.6/20.
Differential Equations, 20/20.
Software Defined Radio Lab, 17.5/20.
Digital Signal Processing (DSP), 16/20.
Wireless Multimedia Communications, 16.5/20.
Computer Networks, 16.5/20.
Engineering Economics, 19.5/20.
Linear Control Systems, 17.5/20.

Technical skills

Programming	C, C++, Python, MATLAB
Simulation and Design Tools	Quartus, ModelSim, MultiSim, Proteus, CodeVision AVR, HFSS, Agilent ADS
Applications	LaTeX, Microsoft Office
Deep Learning Frameworks	Keras, TensorFlow
Vision	OpenCV

Work and Research Experience

- 2018-Present **Working at Habibi Trade Group**, Research on Time Series Forecasting and Crypto-currencies price prediction using Deep Learning algorithms such as LSTM and GRU cells.
- 2018 **Hand Gesture Detection Using Machine Learning Algorithms**, *Using Keras and some OpenCV function*, Bachelor's Thesis, Secure Communication Laboratory, University of Tehran
- 2017 **Contribution to Persian Ghazal Car Project**, Building a remote controller with an OLED display, an ATmega32 and two DRF wireless transceiver modules which was synced by Ghazal car, University of Tehran.
- 2016 **Internship and Working at Matab Company**, Designing a wind speedometer by ultrasonic transceiver sensors, an analog system using Microcontrollers.

Honors and Awards

- 2017 **Direct Admission to Master of Electrical Engineering Program As Exceptional Talent Student**, *Admission from ECE Department*, University of Tehran.
- 2014 **National Universities Entrance Exam**, *Ranked 246th among more than 220,000 contestants*.
- 2013 **Accepted at First Round of The National Mathematics and Informatics Olympiads**.
- 2012 and 2013 **Attending to Javan Iranian Basketball First League Team**.
- 2010-2013 **Awarded 1st Student Appreciation at Amir High School**(part of the best schools in Tehran).

Selected Academic Projects

- 2018 **Design and Implement SVM, Bayesian, KNN and Linear(One-Vs-One) Classifiers**, *With Python language*, Pattern Recognition(Audited) course.
- 2018 **Design and Implement Gaussian Parametric and Parzen Non-parametric Estimate of PDFs**, *With Python language*, Pattern Recognition(Audited) course.
- 2018 **Design and Implement Feature Selection's Methods Such as PCA, Forward Selection and LDA**, *With Python language*, Pattern Recognition(Audited) course.
- 2017 **MRC Diversity Simulation of a MIMO System via MATLAB**, *Wireless Multimedia Communications course*.
- 2017 **Design and Implementation Sending Message via Bluetooth to a Cellphone with AVR ATmega32**, Microprocessor course.
- 2017 **Design and FPGA Implementation**, *A digital oscilloscope and a digital signal generator using Altera board*, Digital Logic Design Laboratory.
- 2016 **Network Simulator (NS-3) Implementation and Analysis**, *Calculating throughput of a network which is composed of peer to peer, WiFi and Ethernet connections*, Computer Networks course.
- 2016 **UART and FIR Filter Implementation Using FPGA**, *Using Altera ROM for FIR filter coefficient*, FPGA-based Embedded System Design course.

- 2016 **Simulation and implementation of different digital modulations, such as PSK and QAM in MATLAB**, Digital Communications course.
- 2016 **Simulation of Inverted Pendulum by MATLAB Simulink**, Linear Control Systems.
- 2015 **Watermarking a Sound with an Image by MATLAB**, *Signal and Systems*.
- 2014 **Design and Implementing a C Library**, *Including functions to create a database containing student informations and a hash-table for accessing to each one*, Introduction to Computing Systems and Programming course.

Notable Personal Projects

- 2017 **Envelope Detector by FPGA Board**, Designing FIR and IIR filter by using MATLAB Simulink and implementing envelope detector after sampling an analog signal with a FPGA board.
- 2017 **Simulation of How Under-Sampling Theory Affects on SNR by MATLAB**, *Using lower ADC sampling rate for digitalizing a bandpass analog signal*.
- 2016 **Implementing a Multi functional System with Sim808 and AVR ATmega32**, *Sending Message, getting live location from GPS and GET or POST some information from or to a server with HTTP protocol were some of it's functions*.

Technical Reports

- 2018 **Skin, Face and Hand Detector Using OpenCV and Keras Technical Report**, *University of Tehran*.
- 2017 **Intermediate Frequency Sampling Simulation Technical Report**, *Light Company*.
- 2015 **How to Use Ultrasonic, Sim808 Modules and GUVa Diode(UV meter) Technical Reports**, *MATLAB Company*.

Teaching Experience

- 2018 **Teaching Assistant**, Linear Control Systems, University of Tehran.
- 2018 **Teaching Assistant**, Engineering Probability and Statistics, University of Tehran.
- 2017 **Teaching for National University Entrance Exam**, Distributed Mathematics and Analytic geometry.
- 2016 **Teaching for National University Entrance Exam**, Mathematics.
- 2014-2015 **Consultant for National University Entrance Exam**, *Helping Amir high school students in mathematics, Physics and chemistry*.

Languages

Persian	Native
English	Fluent
	TOEFL IBT :81 total, 25R, 20W, 18L, 18S.
	GRE Revised General Test :162Q, 142V 3W.
Arabic	Familiar

Academic and Professional References

Dr. Mohammad Ali Akhaee

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