

# Yasamin Niknam

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## EDUCATION

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**Bachelor of Science in Electrical Engineering** 2016–Present  
Minor in Software Engineering (GPA: 19.28/20)  
*University of Tehran, Tehran, Iran*  
Overall GPA:18.21/20, Last Year GPA:19.70/20

**High School Diploma in Mathematics and Physics** 2012–2016  
*Farzanehgan1 High School, Ahwaz, Iran*  
GPA:19.83/20

## HONORS AND AWARDS

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- Ranked 381<sup>th</sup> among more than 156,000 participants in Iranian National University Entrance Exam in 2016
- Member of Iran's National Elites Foundation
- Ranked 10<sup>th</sup> (among top 10 percent) out of 120 undergraduate students, School of Electrical and Computer Engineering, University of Tehran

## TEACHING EXPERIENCE

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**Digital Logic Design** *by Prof.Navabi* 2018–2019  
Designing assignment questions and grading them.

**Linear Control Systems** *by Dr.Adhami and Dr.Bahrami* 2019–2020  
Designing assignment questions and computer assignments, grading quizzes.

**Introduction to Computer Systems and Programming** *by Dr.Hashemi and Dr.Moradi* 2019–2020  
Designing computer assignments, holding TA sessions and grading exams as a Supervisor.

**Digital Signal Processing** *by Dr.Akhaee* 2019–2020  
Designing computer and handwritten assignments, and grading exams.

**Engineering Mathematics** *by Dr.Tale' Masooleh* 2019–2020  
Designing assignment questions and grading them.

**Engineering Probability and Statistics** *by Dr.Abolghasemi Dehaghani* 2019–2020  
Designing questions for assignments and recitations.

**Communication Systems** *by Dr.Sabaghian* 2019–Present  
Designing handwritten and computer assignment questions and grading quizzes.

**Industrial Control** *by Dr.Kalhor* 2020–Present  
Designing assignment questions and grading them.

**Intelligent Systems** *by Dr.Hosseini* 2020–Present  
Designing assignment and grading them.

## RESEARCH EXPERIENCE AND NOTABLE PROJECTS

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- Navigation Robot** Fall 2017  
Designing and manufacturing of a navigational robot by executing NCY70 Optical Sensors, and AVR microcontroller coding, which is able to find the desired route.
- Radiomics** Fall 2017  
Clustering the statistical NSCLC-Radiomics data from a number of patients via K-means Clustering, Chi-squared Test and Logrank Test concepts and then finding the relation between clinical data and survival time.
- Voice Signal Processing** Spring 2018  
Analyzing sound samples using different filters and examining the effects of Nyquist rate alternation on signals in MATLAB.
- Image Processing** Spring 2018  
Tampering picture resolution, specification and noise removal through the use of Wavelet Toolbox and execution of various filters, and also image compression by employing JPEG algorithm in MATLAB.
- IoT** Summer 2018  
The design of a web platform dedicated to controlling light, temperature and moisture of a room by using Raspberry Pi.
- Heart Rate Monitoring System** Fall 2018  
Heart rate monitoring and stress level measurement through applying a Heart Rate Sensor and an AVR microcontroller.
- Digital Logic Design Lab** Fall 2018  
Implementing a VGA controller, a Function Generator, an Analog to Digital Converter (ADC), and a Digital to Analog Converter (DAC) in Verilog in order to program an FPGA.
- Linear Control System Lab** Fall 2018  
The application of MATLAB's Simulink, Simmechanics and Simhydrolics for designing different kinds of controllers and applying them on a DC motor and the assessment of each controller's functionality.
- Three Tank System** Fall 2018  
The design of a controller for a "Three Tank system" by applying a PID controller and the use of Simulink Real-Time and Simhydraulics in MATLAB for modeling real time systems.
- AP Drive** Fall 2018  
Implementing a web platform called "AP Drive" which allows users to manage their files. The AP HTTP have been used for implementation of the platform's back-end via C++ coding.
- Kingdom Rush** Fall 2018  
Creation of a graphical platform in which two levels of the "Kingdom Rush" game have been implemented by using the SDL Library in c++.
- Speaker Detection** Spring 2019  
Detecting the speaker of a recorded voices based on MFCC features.
- Music information retrieval** Summer 2019  
Implementation of a system to recognize Persian Music using Machine Learning methods.
- Classification Methods Implementation** Fall 2019  
Implementation of SVM, Decision Trees, Neural Network algorithms from scratch, and testing them on Fashion-MNIST dataset.
- Maze Problem** Fall 2019  
Implementation of Q-learning algorithm from scratch in order to solve the maze problem.
- Socket Programming** Fall 2019  
Implementation of a client server system for file sharing and chatting using socket programming in C and Python.
- Decoder Systems for Texts** Spring 2020  
Using Genetic Algorithm in order to decode an encoded text in python.
- Detecting The Subject of Incoming Emails** Spring 2020  
Taking advantage of Bayesian Theory, a detector have been implemented to tag each email based of its information.
- Price Estimation** Spring 2020  
Implementing a Regression Model to estimate cellphone prices based on customers' data.
- Final B.Sc. Project** Present  
Tracking people in crowded scenes by exploiting the bounding box regression of an object detector to predict the position of an object in the next frame, thereby converting a detector to a tracktor.

## SELECTED COURSES

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Computer Networks (20/20), Artificial Intelligence (20/20), Design Algorithms (20/20), Intelligent Systems (20/20), Linear Algebra (20/20), Microprocessor (20/20), Engineering Mathematics (19.75/20), Advanced Programming (19.75/20), Digital Control Systems (19.26/20), Data Structure (19.1/20), Operating Systems (19/20), Probability and Statistics (18.5/20), Communication Systems (18.2/20), Digital Signal Processing (17.7/20), Signals and Systems (17.3/20), Neural Networks and Deep Learning(Ongoing), Operation Research(Ongoing)

## COMPUTER SKILLS

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### Programming

C (Advanced), C++ (Advanced), Assembly (Advanced),Python (Advanced), MATLAB (Advanced), Pytorch(Intermediate), HTML (Intermediate), CSS (Intermediate), Bootstrap (Intermediate), Git (Intermediate), JavaScript (Familiar), Node.js (Familiar), Flask (Familiar)

### Hardware Design

Verilog (Advanced), SystemVerilog (Advanced), ARM (Advanced), AVR (Advanced), Modelsim (Advanced), QuartusII (Advanced), Multisim (Intermediate), Arduino (Intermediate), WireShark (Intermediate), Pspice (Familiar), Proteus (Familiar), Altium (Familiar)

### Typesetting

Word (Advanced), L<sup>A</sup>T<sub>E</sub>X(Advanced)

### Operating Systems

Linux (Intermediate), Windows (Advanced)

## LANGUAGES

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Persian (*native*), English (*fluent*)

## EXTRACURRICULAR ACTIVITIES

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### Musical Studies

2010–Present

Focusing on a classical piano repertoire for over 10 years

### Tedx Keshavarz Boulevard

May 2017

Working as a member of partnership in Tedx Keshavarz Boulevard