Yasmin Niknam

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EDUCATION

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

- Ranked 111^{th} among more than 200,000 participants in Iranian National University Entrance Exam in 2016
- Member of Iran's National Elites Foundation
- Ranked 10^{th} (among top 10 percent) out of 120 undergraduate students, School of Electrical and Computer Engineering, University of Tehran

TEACHING EXPERIENCE

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

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

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

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

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

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

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

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

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

RESEARCH EXPERIENCE AND NOTABLE PROJECTS

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.

Multi Object Tracking 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.

Image Restoration Present

restoring old photos that suffer from severe degradation through training two variational autoencoders (VAEs) to respectively transform old photos and clean photos into two latent spaces.

SELECTED COURSES

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

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), LaTeX(Advanced)

Operating Systems

Linux (Intermediate), Windows (Advanced)

LANGUAGES AND TESTS

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

- **IELTS** Academic: 8 (Reading:8.5, Listening:8.5, Speaking:7.5, Writing:6.5)

EXTRACURRICULAR ACTIVITIES

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