Nima **Jahanbazfard**

Ungraduate Electrical and Electronics Engineering Student

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Education

Bachelor of Science in Electrical Engineering SPECIALIZED IN CONTROL SYSTEMS — *Shiraz, Iran*

Shiraz University of Tecnology — *Sep. 2021 - Present*

- **GPA: 18.04/20.00 (3.8/4)**

HIGH SCHOOL Diploma - SPECIALIZED IN MATH AND PHYSICS — *Shahrekord, Iran*

Mosalanejad Talented High school — *2018 - 2021*

- **GPA: 19.04/20.00 (4/4)**

Research Interest

- Control Systems
- Optimal Control
- Fuzzy Control
- Industrial Control System Security
- Adaptive Control
- Robotics and Mechatronics
- Artificial Intelligence

Honors & Awards

2021-Present — **Ranked 2nd among 60+ Students**, Department of Electrical & Electronics Engineering, Shiraz University of Tecnology — *Shiraz, Iran*

2021-Present — **Ranked 1st among 25+ Students**, Department of Electrical Engineering- SPECIALIZED IN CONTROL SYSTEMS, Shiraz University of Tecnology — *Shiraz, Iran*

2021 — **Ranked within the top 5.5% among 126000+ participants**, in the National University Entrance Exam for Bachelor's degree - Math and Physics — *Shahrekord, Iran*

Technical Skills

Programming Languages

Proficient **Python, MATLAB, C, Simulink, Ladder logic, Arduino, FBD**,
Familiar **Assembly Languages , STL**,

Engineering Software

Proficient **Proteus, CodeVision AVR, Cadense, TIA portal , Simatic Manager Step7**,
Familiar **Altium Designer, AutoCAD, LabView**,

Hardwares

Proficient **Atmel AVR , Arduino Family , Siemens PLC**,

Research Experience

Launching an Industrial Laboratory Plant — *Oct. 2024 - Present*

RESEARCH ASSISTANT UNDER SUPERVISION Prof. Mokhtar Shasadeghi

This project involves a laboratory system where, using a PLC and an Advantech data acquisition card to process data in MATLAB, parameters such as level, pressure, temperature, and flow are precisely measured and monitored. The main goal is to fully program and activate this experimental setup and creating an automated measurement system for enhanced control and data accuracy.

High Performance Continuous-Time Delta-Sigma Modulator

Mar. 2024 - Nov. 2024

RESEARCH ASSISTANT UNDER SUPERVISION DR. SANAZ SALEM

Continuous-time single-bit sigma-delta modulator has been designed in Cadence with innovative techniques to enhance its performance metrics. This design achieves an improved operating bandwidth, reduced power consumption, and higher SNR, positioning it as an ideal solution for high-performance applications require highest bandwidth, such as Recording Systems of Audio and Video. (Under review in: Analog Integrated Circuits and Signal Processing, Springer)

Work Experience

HAMPA Energy Engineering and Design Company (HEDCO)

Shiraz, Iran

INTERNED AT INSTRUMENT DEPARTMENT

Summer 2024

- Learned about Instruments and their Technical Specifications and Datasheets and also Instrument Electrical Connection Details and worked with **AutoCAD** to draw P&ID.

Academic Projects

Designing PID controller

Course Project - Dec. 2024

INDUSTRIAL CONTROL COURSE, SUPERVISED BY PROF. MOKHTAR SHASADEGHI

MATLAB

In this project, efforts have been made to design a PID controller using various methods. Additionally, the goal has been to design the PID controller based on phase margin and gain margin, both separately and simultaneously, with optimization applied.

Designing full order and reduced order observer and designing regulator and tracker controller with full order and reduced order observer

Course Project - Dec. 2024

MODERN CONTROL SYSTEMS COURSE, SUPERVISED BY PROF. JAFAR ZAREI

MATLAB, Simulink

In this project, the initial goal was to examine various stable poles to achieve the best design for both full-order and reduced-order observers using different methods. Subsequently, these observers were utilized to design the best possible regulator and tracker controllers by analyzing stable poles through various approaches.

Designing regulator and tracker controller

Course Project - Dec. 2024

MODERN CONTROL SYSTEMS COURSE, SUPERVISED BY PROF. JAFAR ZAREI

MATLAB, Simulink

In this project, the goal has been to examine various stable poles and achieve the best possible designs for regulator and tracker controllers for single-input and multi-input systems using different methods.

Experimental Modeling for plants

Course Project - Oct. 2024

INDUSTRIAL CONTROL COURSE, SUPERVISED BY PROF. MOKHTAR SHASADEGHI

MATLAB

In this project, the goal was to apply a step input to the desired systems, extract their responses, transfer the responses to MATLAB, and process them to identify and extract the system models.

Simulation of a vehicle suspension system and a DC motor system

Course Project - Oct. 2024

MODERN CONTROL SYSTEMS COURSE, SUPERVISED BY PROF. JAFAR ZAREI

MATLAB

In these two projects, the objective was to derive the governing equations of the systems and simulate them using Simulink and MATLAB.

Traffic Light

Course Project - Fall 2023

FUNDAMENTALS OF MICROPROCESSORS COURSE, SUPERVISED BY DR. SANAZ SALEM

C

In this project, the ATmega32 microcontroller was used to design and implement a traffic light system.

Signal Modulation

Course Project - Fall 2023

COMMUNICATION SYSTEMS COURSE, SUPERVISED BY PROF. KAMRAN KAZEMI

MATLAB

In this project, the goal was to modulate the audio signal into various types such as SSB, DSB, AM, and others. Then, the signal was demodulated, and the effects of noise on the demodulated signal were analyzed.

Launching MPU6050

Course Project - Summer2023

ARDUINO COURSE

Arduino

The aim of this project was to calibrate and set up this module using different filters with the Arduino microcontroller, for use in quadcopters and other applications.

Circuit Designing and PCB

Course Project - Summer 2023

ALTIUM DESIGNER COURSE

Altium Designer, Arduino

In this section, I completed two projects: one was the design of a voltage source circuit, and the other was the design of an automotive temperature control system circuit.

Deep Learning *Course Project - Spring 2023*

Deep Learning Course *Python*

In this project, I worked with two different datasets to implement Multilayer Perceptrons (MLPs) using PyTorch to solve a regression problem and a classification problem.

Image Processing *Course Project - Spring 2023*

Machine Learning Course *Python*

The objective of this project was to implement various image processing techniques using Python and OpenCV.

Teaching Experience

Fall 2023	**Electronics I**, Problem solving, Designing and Marking quizzes and assignments.	*Dr. Zoheir Kordrostami*
Fall 2023	**Electrical Circuits Theory I**, Holding Tutorial Class, Problem solving , Designing and Marking quizzes and assignments.	*Dr. Alireza Roosta*

Courses

Feb. - Sept. 2024	**Artificial Intelligence Course**, Online, Holding by IAAA (Iran Annual AI Award)	*Certificate*
Summer 2023	**Altium Designer Course**, Shiraz University of Technology, Lecturer: Dr. Yousef Niazi	
Summer 2023	**Arduino Course**, Shiraz University of Technology, Lecturer: Dr. Yousef Niazi	
Winter 2023	**PLC (Programmable Logic Control) Course**, Bahonar technical and vocational university of shiraz	

Languages

English

FLUENT

The TOEFL iBT test: To be taken on Apr. 26. 2025

Persian

NATIVE

References

1.Dr. Alireza Roosta

Associate Professor

Email: roosta@sutech.ac.ir

2.Prof. Mokhtar Shasadeghi

Professor

Email: shasadeghi@sutech.ac.ir

3.Prof. Jafar Zarei

Professor

Email: zarei@sutech.ac.ir

4.Dr. Sanaz Salem

Assistant Professor

Email: s.salem@sutech.ac.ir