



# FATEMEH KARIMI BARIKARASFI

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## Education

Sept. 2017- Jan. 2022	<b>Iran University of Science and Technology</b> B.Sc in Electrical Engineering (Telecommunication) <ul style="list-style-type: none"><li>GPA: 15.92/20</li><li>Last two years GPA: 16.53/20</li></ul>	Tehran, Iran
June. 2016- Aug. 2016	<b>Young Scholar Club</b> Physics <ul style="list-style-type: none"><li>Got Bronze Medal in 29th National Physics Olympiad</li></ul>	Tehran, Iran
Sept. 2013 - June. 2017	<b>Farzanegan2 High School</b> Diploma in Mathematics and Physics <ul style="list-style-type: none"><li>Pre-university GPA: 18.86/20</li><li>Senior High School GPA: 17.86/20</li></ul>	Tehran, Iran

## Research Interest

- Theoretical Physics
- Mathematics and Statistics
- Computational Neuroscience
- Signal Processing

## Research Experience

Apr. 2021 - Oct. 2021	<b>Undergraduate Research Assistant</b> Department of Electrical Engineering, Iran University of Science and Technology <ul style="list-style-type: none"><li>Worked on Routing algorithms analysis (Dijkstra, Bellman-Ford, and Q-Routing) on Static and Dynamically Changed Networks modeled by Queuing Theory</li></ul> <i>Under the supervision of Prof. Shahrokh Farahmand</i> Grade Point: 20/20	Tehran, Iran
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## Achievement

2016 – Ongoing	Member of Iran's National Elites Foundation
2016	Received Bronze Medal in Iran's National Physics Olympiad
2011 – 2017	Member of National Organization for Development of Exceptional Talents

## Technical Skill

Programming Language	Python, C/C++, MATLAB
Framework and Library	NumPy, Pandas, Matplotlib, TensorFlow, Keras, Scikit-learn, NetworkX
Professional Software	P-Spice, H-Spice, OMNeT++, HFSS
Technology	Git, VSCode

## Course Project

Linear Control Systems	<ul style="list-style-type: none"><li>DC motor transfer function estimation <i>by System Identification Toolbox of MATLAB</i></li><li>DC motor position and velocity controller design (Phase-Lag, Phase-Lead, and PID) <i>by MATLAB</i></li></ul>
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Digital Communication	<ul style="list-style-type: none"> <li>Implementation of QAM, BPSK, FSK, and M modulation and detection algorithms in AWGN Channel <i>by MATLAB</i></li> <li>Implementation of QPSK and BPSK modulation and detection algorithms in Rayleigh Fading Channel <i>by MATLAB</i></li> <li>Implementation of Hamming code and its detection algorithm in AWGN Channel <i>by MATLAB</i></li> </ul>
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Digital Signal Processing	<ul style="list-style-type: none"> <li>Implementation of OFDM sender and receiver <i>by MATLAB</i></li> <li>Speech signal denoising using implemented FIR and IIR filters <i>by MATLAB</i></li> </ul>
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Electronic Circuit	<ul style="list-style-type: none"> <li>Circuit design and simulation of following Electrical Circuits: Voltage Regulator, Electrical Thermometer, and several Voltage and Current Amplifiers <i>by P-Spice</i></li> <li>Design and simulation of following Integrated Circuits: an Operational Amplifiers, a Current Source, and a Folded Cascode Amplifier <i>by H-Spice</i></li> </ul>
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Economic Engineering	<ul style="list-style-type: none"> <li>Economic evaluation of a homemade solar power plant <i>by EXCEL</i></li> </ul>
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Antenna	<ul style="list-style-type: none"> <li>Cross Dipole Antenna design, simulation, and analysis <i>by HFSS</i></li> </ul>
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Online Course		
Dec. 2023 - Apr. 2024	Machine Learning Specialization <i>by Stanford University</i>	
Apr. 2023	Brain Mapping Spring School <i>by National Brain Mapping Laboratory</i>	
Sept. 2022 - Mar. 2023	Python Programming <i>by PYTOPIA</i>	
Sept. 2019	FPGA Course <i>by IEEE Student Branch of Iran University of Science and Technology</i>	

Volunteer Experience		
2019 - Ongoing	Mathematics and Physics Teacher	Tehran, Iran
	<ul style="list-style-type: none"> <li>Teaching geometry, discrete mathematics, calculus, and physics</li> </ul>	

Reference

Prof. Shahrokh Farahmand	Assistant Professor at Iran University of Science and Technology
	<ul style="list-style-type: none"> <li>sha.farahmand@gmail.com</li> </ul>
Prof. Farzan Haddadi	Associate Professor at Iran University of Science and Technology
	<ul style="list-style-type: none"> <li>farzanhaddadi@iust.ac.ir</li> </ul>

Language

English	TOEFL iBT: 93/100 (Reading: 27   Listening: 28,   Speaking: 19   Writing: 19)
Persian	Native