FATEMEH KARIMI BARIKARASFI

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Education

Sept. 2017- Jan. 2022 — **Iran University of Science and Technology** — *Tehran, Iran*
B.Sc in Electrical Engineering (Telecommunication)
- GPA: 15.92/20
- Last two years GPA: 16.53/20

June. 2016- Aug. 2016 — **Young Scholar Club** — *Tehran, Iran*
Physics
- Got Bronze Modal in 29th National Physics Olympiad

Sept. 2013 - June. 2017 — **Farzanegan2 High School** — *Tehran, Iran*
Diploma in Mathematics and Physics
- Pre-university GPA: 18.86/20
- Senior High School GPA: 17.86/20

Research Interest

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

Research Experience

Apr. 2021 - Oct. 2021 — **Undergraduate Research Assistant** — *Tehran, Iran*
Department of Electrical Engineering, Iran University of Science and Technology
- Worked on Routing algorithms analysis (Dijkstra, Bellman-Ford, and Q-Routing) on Static and Dynamically Changed Networks modeled by Queuing Theory
  Under the supervision of Prof. Shahrokh Farahmand
  Grade Point: 20/20

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
- DC motor transfer function estimation *by System Identification Toolbox of MATLAB*
- DC motor position and velocity controller design (Phase-Lag, Phase-Lead, and PID) *by MATLAB*

Digital Communication

- Implementation of QAM, BPSK, FSK, and Ml modulation and detection algorithms in AWGN Channel *by MATLAB*
- Implementation of QPSK and BPSK modulation and detection algorithms in Rayleigh Fading Channel *by MATLAB*
- Implementation of Hamming code and its detection algorithm in AWGN Channel *by MATLAB*

Digital Signal Processing

- Implementation of OFDM sender and receiver *by MATLAB*
- Speech signal denoising using implemented FIR and IIR filters *by MATLAB*

Electronic Circuit

- Circuit design and simulation of following Electrical Circuits: Voltage Regulator, Electrical Thermometer, and several Voltage and Current Amplifiers *by P–Spice*
- Design and simulation of following Integrated Circuits: an Operational Amplifiers, a Current Source, and a Folded Cascode Amplifier *by H–Spice*

Economic Engineering

- Economic evaluation of a homemade solar power plant *by EXCEL*

Antenna

- Cross Dipole Antenna design, simulation, and analysis *by HFSS*

Online Course

Dec. 2023 - Apr. 2024 Machine Learning Specialization *by Stanford University*

Apr. 2023 Brain Mapping Spring School *by National Brain Mapping Laboratory*

Sept. 2022 - Mar. 2023 Python Programming *by PYTOPIA*

Sept. 2019 FPGA Course *by IEEE Student Branch of Iran University of Science and Technology*

Volunteer Experience

2019 - Ongoing Mathematics and Physics Teacher *Tehran, Iran*

- Teaching geometry, discrete mathematics, calculus, and physics

Reference

Prof. Shahrokh Farahmand — Assistant Professor at Iran University of Science and Technology
- sha.farahmand@gmail.com

Prof. Farzan Haddadi — Associate Professor at Iran University of Science and Technology
- farzanhaddadi@iust.ac.ir

Language

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

Persian — Native