Fatemeh Karimi Barikarasfi

(0905) 228 0875 • fatemehkarimi2178@gmail.com • fatemehkarimi2178

Education

Iran University of Science and Technology **Sept. 2017 - Jan. 2022**
Bachelor of Science *Tehran, Iran*

B.Sc in Electrical Engineering (Telecommunication)
- GPA: 15.92/20
- Last two years GPA: 16.53/20

Young Scholar Club **June. 2016 - Aug. 2016**
Physics *Tehran, Iran*

- Got Bronze Modal

Farzanegan2 High School **Sept. 2013 - June. 2017**
Diploma in Mathematics and Physics *Tehran, Iran*

- Pre-university GPA: 18.86/20
- Diploma GPA: 17.86/20

Research Interest

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

Research Experience

Undergraduate Research Assistant **Apr. 2021 - Oct. 2021**
Iran University of Science and Technology, Department of Electrical Engineering

- 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

Achievements

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

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

Notable Project

Linear Control Systems
- DC Motor Transfer Function Estimation using System Identification Toolbox of MATLAB
- DC Motor Position and Velocity Controller Design using Phase-Lag, Phase-Lead, and PID Controllers using MATLAB

Digital Communication
- Implementation of QAM, BPSK, FSK, and Ml Modulation and Detection Algorithms in AWGN Channel using MATLAB
- Implementation of QPSK and BPSK Modulation and Detection Algorithms in Rayleigh Fading Channel using MATLAB
- Implementation of Hamming Code and its Detection Algorithm in AWGN Channel using MATLAB

Digital Signal Processing
- Implementation of OFDM Sender and Receiver using MATLAB
- Speech Signal Denoising using Implemented FIR and IIR Filters using MATLAB

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

Economic Engineering
- Economic Evaluation of a Homemade Solar Power Plant by EXCEL

Antenna
- Cross Dipole Antenna Design, Simulation, and Analysis using HFSS

Online Course and Selected Certificate

Python Programming | *by PYTOPIA*
- **Covered Topics** : Object Oriented Programming and Modularization, Advanced Topics including Decorators, Exceptions, Iterators and Generators, Descriptors, Serialization (JSON, YAML, Pickle), itertools, pytest, concurrency (Thread, Process)

The Brain and Space | *by Duke University*
- **Covered Topics** : Vision, the Body and Neural Signals, Brain Maps, Sound and Brain Representation, Representations, Reference Frames and Navigation, Memory and Cognition

Brain Mapping Spring School | *by National Brain Mapping Laboratory*
- **Covered Topics** : Introduction to Brain Anatomy, Neuroscience and Cognitive Science, and Brain Imaging, Fundamentals of EEG, MRI, fNIRS, TMS/TES, and Neurofeedback

FPGA Course | *by IEEE Student Branch of Iran University of Science and Technology*
- **Covered Topics** : Introduction to Verilog and VHDL

Volunteer Experience

High School Mathematics and Physics Teacher
- 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