

Nasrin Karimi

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Education

M.Sc. in Electrical Engineering (Field and Waves Communications) *Tehran, Iran*
Faculty of Electrical and Computer Engineering, Shahid Beheshti University *Sep. 2022 - Present*

- **Cumulative GPA: 3.85/4 - Ranked 1st among graduate students**

B.Sc. in Electrical Engineering *Tehran, Iran*
Faculty of Electrical and Computer Engineering, Shahid Beheshti University *Sep. 2018 - March 2022*

- **Cumulative GPA: 3.34/4, Last two years: 3.6/4, Final year: 3.7/4**
(Has Finished in 7 Semesters (rather than 8))

Diploma in Mathematics & Physics *Tehran, Iran*
Shahed Muallem High school and Pre-University *Sep. 2014 - Sep. 2018*

- **Cumulative GPA: 19.59/20**

Research Interests

Machine Learning, in general and
Deep Learning and Neural Networks, in particular with applications in
Field and Waves Communications, and
Wireless Communications.

Theses

MIMO Imaging Radars and **Resolution** Enhancement Using **Deep Learning** Methods *Tehran, Iran*
Faculty of Electrical and Computer Engineering, Shahid Beheshti University *Present*

- **Supervisor: Prof. Esfandiar Mehrshahi**

Link Quality Estimation of **Wireless Communications** with **Machine learning** Algorithms
Using **SVM** *Tehran, Iran*
Faculty of Electrical and Computer Engineering, Shahid Beheshti University *Feb. 2022*

- **Supervisor: Prof. Reza Asvadi** **Score: 19.25/20**

Honors & Awards

2022 Offered **Straight Admission of M.Sc. (Telecommunication Systems)**,
Faculty of Electrical and Computer Engineering, Shahid Beheshti University
2022 Offered **Straight Admission of M.Sc. (Field and Waves Communications)**,
Faculty of Electrical and Computer Engineering, Shahid Beheshti University
2018 **Within 0.5% place among more than 156,000 participants**,
Nationwide Universities Entrance Exam (B.Sc.)
2017 **Ranked 1st**, Chemistry Laboratory Competition, District 4, Tehran, Iran
2017 **Ranked 1st**, Electronic Content Competition, District 4, Tehran, Iran

Experiences

Research Experience

Research Assistant *MCI & Shahid Beheshti University, Tehran, Iran*
MCI (Mobile Telecommunication Company of Iran) *Oct. 2022 - Apr. 2023*

- Optical Transmission Networks (**5G Communications**)
- Dedicated Fiber (5G Communication)
- Passive Optical Network (5G Communication)
- CPRI over Ethernet (5G Communication)
- OFDM/FDM/... (5G Communication)

Under Supervision of **Prof. Esfandiar Mehrshahi** & **Prof. Alireza Gholipour**

Work Experience

Telecommunication Engineering Intern

MCI, Ardebil, Iran

TCI (Telecommunication Company of Iran)

Summer 2021

- The Components of the Telecommunication Technical Center (Switching, Cable, Control, etc. Rooms)
- Registering Phone Failures
- Concept of Traffic, Volume and its Measurement Methods
- Type of Networking System (LAN, MAN, WAN,...)
- Optimization Software
- Mechanism of Switching Networks, ...

Under Supervision of **Prof. Reza Asvadi**

Teaching Experience

Fields and Waves

Semester Spring 2024

- Under Supervision of **Prof. Esfandiar Mehrshahi**

Linear Algebra

Semester Spring 2024

- Under Supervision of **Prof. Esfandiar Mehrshahi**

Linear Algebra

Semester Fall 2023

- Under Supervision of **Prof. Esfandiar Mehrshahi**

Engineering Mathematics

Semester Fall 2023

- Under Supervision of **Prof. Esfandiar Mehrshahi** & **Prof. Alireza Gholipour**

Electromagnetics

Semester Fall 2023

- Under Supervision of **Prof. Esfandiar Mehrshahi** & **Prof. Abbas Pirhadi**

Technical Language

Semester Fall 2023

- Under Supervision of **Prof. Shokrollah Karimian**

Linear Algebra

Semester Spring 2023

- **GitHub** | Under Supervision of **Prof. Esfandiar Mehrshahi**

Telecommunication Circuits

Semester Spring 2023

- **GitHub** | Under Supervision of **Prof. Shokrollah Karimian**

Technical Language

Semester Spring 2023

- **GitHub** | Under Supervision of **Prof. Shokrollah Karimian**

Telecommunication Circuits

Semester Fall 2021

- **GitHub** | Under Supervision of **Prof. Shahrooz Asadi**

Physics

Semester Fall 2021

- **GitHub** | Under Supervision of **Prof. Gholam-Mohammad Parsanasab**

Notable Courses

Fundamentals of Radar Systems (19) - Seminar (20) - Principles of Communication Systems (19.25/20) - Telecommunication Circuits (19.5/20) Advanced Engineering Mathematics (18.5/20) - Convex Optimization (18/20) - Metamaterials (19/20) - Electromagnetic Compatibility (EMC) (19/20) - Active Microwave Circuits (18.5/20) - Filter and Circuit Synthesis (18/20) - Computer Programming (17/20) - Microprocessor and Computer Structure Lab. (18.8/20) - ASIC/FPGA Circuits (19.87/20) - Electronic Physics (20/20) - Electronics (III) Lab. (20/20).

Workshops & Certificates

29 Dec. 2023 **Probability & Statistics for Machine Learning & Data Science,**

Dr. Luis Serrano

Deeplearning.ai

29 Dec. 2023 **Fundamentals of Digital Image and Video Processing,**

July 2024

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Prof. Aggelos K. Katsaggelos

Northwestern University

8 Dec. 2023 **Introduction to Machine Learning,**

Professors: Lawrence Carin, David Carlson and Genevieve M. Lipp

Duke University

25 Nov. 2023 **Python Data Structures,**

Prof. Charles Severance

University of Michigan

26 Sep. 2023 **Wireless Communications for Everybody,**

Professors: Kwang-Soon Kim, Seong-Lyun Kim, Chan-Byoung Chae, Dae-Sik Hong, Song-Kuk Kim

Yonsei University

16 Sep. 2023 **Neural Networks and Deep Learning,**

Prof. Andrew NG

Deeplearning.ai

18 Aug. 2023 **Supervised Machine Learning: Regression and Classification,**

Prof. Andrew NG

Stanford, Deeplearning.ai

11 Aug. 2023 **Linear Algebra for Machine Learning and Data Science,**

Dr. Luis Serrano

Deeplearning.ai

23 July 2023 **Managing Emotions in Times of Uncertainty & Stress,**

Yale

9 July 2023 **Programming for Everybody (Getting Started with Python),**

Prof. Charles Severance

University of Michigan

May - June 2022 **Introductory to advanced Python Course**

IEEE

June - July 2021 **Workshop on Machine Learning**

IEEE

June 2020 **Verilog Programming Language**

Shahid Beheshti University

Electrical Engineering Students Scientific Association

Skills

Programming Languages Python, MATLAB, C/C++, Verilog > JavaScript, HTML

Software Proteus - Arduino - Multisim - Dialux - Code Vision - ADS - CST-

Feko - HFSS - Hspice - Visual Code Studio - Xilinx - Office - Altium Designer - Qucs - Octave

Languages

Persian, Azerbaijani Mother Language (Native)

Turkish, Chinese, Korean, Japanese Beginner

English IELTS (Oct. 20, 2022) **Overall 7 (Reading: 8.5, Listening: 7.5, Speaking: 6.5, Writing: 6)**

Projects

Feko, CST

- **Design and Fabricate** Multiple **Antennas** with Specific Characteristics: **Printed Dipole - Dipole - Conical Horn - Pyramidal Horn,...**

Feko

- Study the **Influence of Gap** in **Dipole Antennas**.

ADS, CST, Altium Designer

- **Design and Fabricate** a **Metamaterial** Unit cell for **CRLH Bandpass Filter** with specific Characteristics
- **Design** a **Coplanar Wave Guide** and **Microstrip Line** with the specific 77 ohms Characteristic Impedance

MATLAB

- **Analog Modulation (DSB, USSB, ... + Demodulation)** | **GitHub**
- **Echo and Noise Removing** | **GitHub**

Python

- **Yes/No Audio Verification** | **GitHub**
- Solving **Sudoku Tables** using **Optimization** | **GitHub**

Arduino + Proteus

- **4 Floor Elevator + Ground floor with Many Features** | **GitHub**
- **Museum Protector** | **GitHub**
- **Smart Dustbin, RGB Bedside Lamp, Smart Flower**

Verilog + Xilinx

- **Detecting Edge of Pictures** | **GitHub**

C++

- **Calculator (with many features)** | **GitHub**

Activities

NOA Entrepreneurship Event

Summer - Fall 2023

Science and Technology Park of Shahid Beheshti University, Tehran, Iran

(Accepted Team as First Stage)

Tehran Investment Summit International Event

Summer 2022

(Accepted Team - Smart Dustbin)

Milad Tower, Iran, Tehran

NOA Entrepreneurship Event

Winter - Spring 2021

Science and Technology Park of Shahid Beheshti University, Tehran, Iran

(Accepted Team - Smart Audio Assistant)

Spaghetti Bridge Competition

Winter 2019

Shahid Beheshti University - Tehran - Iran

IEEE

Summer 2020

- IoT based Decentralized Architectures for Flexibility Service Provision Webinar
- Frequency Control in Low-Inertia Power Systems Webinar
- Vision, Roadmap and Strategy of Electricity Industry (Energy, Information Technology and Interdisciplinary Industries) Webinar
- Haptic Technology in Intra ocular Surgeries Webinar

Soft Skills

Teamwork - Time Management - Decision Making - Adaptable to Change - Problem Solving

Hobbies

Cars! - Work out - Reading - Painting - Games - Robotics - Watching Movie - Motor bicycles!

References

Prof. Esfandiar Mehrshahi | Associate Professor

Faculty of Electrical and Computer Engineering, Shahid Beheshti University

- Email: mehr@sbu.ac.ir

Prof. Shokrollah Karimian | Assistant Professor

Faculty of Electrical and Computer Engineering, Shahid Beheshti University

- Email: dr.s.karimian@gmail.com

Prof. Reza Asvadi | Assistant Professor

Faculty of Electrical and Computer Engineering, Shahid Beheshti University

- Email: r_asvadi@sbu.ac.ir

Prof. Alireza Gholipour | Assistant Professor

Faculty of Electrical and Computer Engineering, Shahid Beheshti University

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Prof. Gholam-Mohammad Parsanasab | Assistant Professor

Faculty of Electrical and Computer Engineering, Shahid Beheshti University

- Email: gm_parsanasab@sbu.ac.ir