

Sepehr KAZEMI RANJBAR

PERSONAL DATA

PLACE AND DATE OF BIRTH: IRAN | 9 March 2002
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EDUCATION

2020-2023 **Sharif University**, *B.Sc., Electrical Engineering, Communication Systems.*
GPA: 18.51/20
2016-2020 **Allameh Tabatabaei High School**, *High School Diploma, Physics and Mathematics.*
GPA: 19.73/20

RESEARCH INTERESTS

- Machine Learning
- Image Processing
- Computer Vision
- Signal Processing
- Probability, Statistics, and Stochastic Processes
- Blockchain

RESEARCH EXPERIENCE

2023-present	Researcher , Multimedia and Signal Processing Lab, Sharif University. Working under supervision of Prof. Arash Amini on projects about Image Processing and Machine Learning.
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SELECTED PROJECTS

Designing NLP model that optimized for Persian Language

In this project we are designing a NLP system that can read captions and generate keyword which will be then used in SEO for other processing. this model specialized for Persian language due to the lack of an open source model for the Persian language.(*under supervision of Prof. Arash Amini, Prof. Reza kazemi*)

Designing Super Resolution model

In this project, we are designing a model for Super Resolution that uses low resolution images of one scene and then produce a high resolution image of that scene. at the first we use classical interpolation and then power the model with deep neural networks.(*under supervision of Prof. Shohreh Kasaei*)

Denoising of Images based on Mixture Model

In this project at the first we implement EM algorithm for fitting parameters of GMMs. then we use this to compute prior distribution of patches of images and next we use MVN model to compute posterior over noise. finally we reconstruct denoised images.(*under supervision of Prof. Sajad Amini*)

Song detection based on its Fourier transform

In this project we create a Shazam program that detect songs based on their Spectral.(*under supervision of Prof. Arash Amini*)

Social Graph Modeling

In this project we design a social network with graph.(*under supervision of Prof. Mohammad Ali Maddah-Ali*)

SELECTED COURSES

- Image Processing *grad*
- Introduction to Machine Learning
- Digital Signal Processing
- Communication Systems (20/20)
- Introduction to Robotic Systems (18/20)
- Signal and System (20/20)
- Engineering Mathematics (19.4/20)
- Probability and Statistics (17.2/20)
- Linear Algebra (19/20)

HONORS AND AWARDS

2020-present first class honors GPA
2019 Silver Medal of 32th physics Olympiad of IRAN

LANGUAGES

ENGLISH: Fluent
PERSIAN: Native

SKILLS

Programming Skills: PYTHON, C/C++, MATLAB, JAVA
Computer Skills: PsPICE, PROTEUS, MPLAB, LINUX(UBUNTU,KALI), COMSOL, \LaTeX

TEACHING ASSISTANCE

2023 Engineering Mathematics (*Prof. Davood Poreh*)
2022 Electrical Circuits and Lab (*Prof. Emad Fatemizadeh*)