# Farshad **Sangari**

COMPUTER VISION RESEARCHER · STUDENT

*School of Electrical and Computer Engineering, University College of Engineering, University of Tehran, Tehran, Iran*

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*"Be the change you want to see in the world."*

## Education

**College of Electrical and Computer Engineering, University of Tehran** *Tehran, Iran*
MSc: COMPUTER ENGINEERING - ARTIFICIAL INTELLIGENCE *Sep. 2021 - Now*
- Cum. GPA: 18.73/20(3.89/4)

**K.N.Toosi University of Technology** *Tehran, Iran*
BSc: ELECTRICAL ENGINEERING - TELECOMMUNICATION *Sep. 2017 - Sep. 2021*
- Cum. GPA: 17/20(3.64/4)
- Thesis grade: 20/20(4/4)

## Research Interests

**Generative models**
**Explainable A.I.**
**Robustness**
**Data Science**

## Selected Courses

| | | |
|---|---|---|
| 2023 | **Trustworthy AI**, 20/20(4/4) | *University of Tehran* |
| 2023 | **Advanced Robatics**, 19.24/20(4/4) | *University of Tehran* |
| 2022 | **Deep Generative models**, 19.8/20(4/4) | *University of Tehran* |
| 2022 | **Deep Learning and Applications**, 18/20(4/4) | *University of Tehran* |
| 2021 | **Machine Learning**, 19.2/20(4/4) | *University of Tehran* |
| 2022 | **Statistical Inference**, 18.4/20(4/4) | *University of Tehran* |
| 2021 | **Data science**, 18.75/20(4/4) | *University of Tehran* |
| 2018 | **Linear Algebra**, 18.5/20(4/4) | *K.N.Toosi University* |
| 2018 | **Basics of Optimization**, 19.5/20(4/4) | *K.N.Toosi University* |

## Research Experience

**(University of Tehran)Machine learning and computational modeling lab** *Tehran, Iran*
INTERPRETABLE REPRESENTATION LEARNING VIA GENERATIVE MODELS: BRIDGING UNDERSTANDING AND COMPLEXITY *Feb. 2022*
- Supervisors: Dr. Reshad Hosseini - Prof. Babak N. Araabi

## Internships

**Telecommunications service provider** *Birjand, Iran*
TELECOMMUNICATION SYSTEMS *Jul. 2021*

## Teaching Experience

| | | |
|---|---|---|
| Sep. 2023 | **(Lead TA)Deep Generative models**, By Dr. Mostafa Tavassolipour, Dr. Mohammad Amin Sadeghi | *University of Tehran* |
| Jan. 2023 | **(Lead TA)Deep Learning with Applications**, By Dr. Reshad Hosseini | *University of Tehran* |
| Apr. 2023 | **PyTorch tutorial**, | *Youtube course* |
| Apr. 2023 | **Pandas and Matplotlib tutorial**, | *Youtube course* |

# Notable Academic Projects

### Trustworthy A.I.
*Tehran, Iran*

TAUGHT BY DR. MOSTAFA TAVASSOLIPOUR, DR. MOHAMMAD AMIN SADEGHI
*Nov. 2023*

- Robust Representation using Angular loss
- Enhancing Model Interpretability by leveraging LIME and SHAP for Comprehensive Explanations
- Out-of-Distribution Detection: Enhancing Model Robustness and Generalization

### Deep Generative models
*Tehran, Iran*

TAUGHT BY DR. MOSTAFA TAVASSOLIPOUR, DR. MOHAMMAD AMIN SADEGHI
*Nov. 2023*

- RealNVP implementation
- Score matching network Implementation
- Diffusion model Implementation
- VAE and its variations Implementation
- RealNVP implementation

### Deep Learning and Applications
*Tehran, Iran*

TAUGHT BY DR. RESHAD HOSSEINI
*Nov. 2023*

- Deep Fully connected network implementation(numpy)
- Saliency map prediction using deep neural network
- Deep Fully connected network implementationInverting visual representations for Convolutional Networks.
- Medical image segmentation Using U-net architecture
- Part of speech tagging for Persian Language using deep recurrent model
- Implementing Hubert architecture for Automatic Speech Recognition
- Replicate "DeepGUM: Learning Deep Robust Regression with a Gaussian-Uniform Mixture Model" paper
- Classification and clustering of Iranian instrument genres with classical machine learning methods
- Implementation of Feature Selection Algorithm for Enhanced Performance

### Data Science
*Tehran, Iran*

TAUGHT BY DR. MOHAMMAD AMIN SADEGHI
*Nov. 2023*

- Analyse Coronavirus infection
- Amazon scraper for laptop
- Analysis of Alibaba vs MrBilit tickets' price
- Web Scraping and Data cleaning: Obtaining Laptop Listings from Digikala

# Honors & Awards

Sep. 2021 **Ranked 30th among +20000 in the National Master Entrance Exam**,

Aug. 2021 **4th Rank among all Telecommunication Engineering students at K.N.Toosi University**,

Aug. 2017 **Among the top 1% of Iran Universities Entrance Exam**,

# Technical skills

| | |
|---|---|
| **Programming Languages** | Python, Matlab,R, C++, SQL, Javascript, HTML, CSS |
| **Deep Learning** | PyTorch, Tensorflow, Pandas, NumPy, Scikit-Learn |
| **Operating Systems** | Linux (Specially Ubuntu), Windows |
| **Database** | MySQL, Postgres |
| **Soft Skills** | Team Work, Problem-Solving, Time Management, Adaptability/Flexibility |
| **Languages** | Persian(Native), English (TOEFL IBT exam will be taken on Nov. 2023) |