

AMIRREZA VELAE

amirrezavelae@ee.sharif.edu ◇ Webpage ◇ Github ◇ Linkedin ◇ Twitter

RESEARCH INTERESTS

- Random Process
- Machine Learning
- Optimization
- Signal Processing
- Game Theorey
- Reinforcement Learning
- Image Processing
- information Theorey

EDUCATION

<u>Sharif University of Technology</u>	Tehran, Iran
<ul style="list-style-type: none">• Bachelor of Science, Electrical Engineering GPA: 17.53/20.00 (3.6/4.0)	Sep. 2021 – Present
<u>Allameh Jafaru High School (NODET)</u>	Marand, Iran
<ul style="list-style-type: none">• Higher Secondary Education, Math and Physics	2018 – 2021

RESEARCH EXPERIENCES

<u>Sharif University of Technology</u>	
<ul style="list-style-type: none">• Score Based Diffusion Models <i>Supervisor:</i> Prof. Mohammad Hossein Rohban	Dec. 2023 – Present
<ul style="list-style-type: none"><ul style="list-style-type: none">– Studying score based diffusion models and their applications in computer vision.– Solving the problem of score estimation in diffusion models.	
<ul style="list-style-type: none">• Novel View with a Light Field Camera <i>Supervisor:</i> Prof. Arash Amini	July 2023 – Present
<ul style="list-style-type: none"><ul style="list-style-type: none">– Desinging a novel view synthesis algorithm using a light field camera.– Using deep learning to improve the quality of the synthesized novel view with depth map.	

INTERNSHIP TRAINING

<u>HOMA (Coud AI)</u>	
<ul style="list-style-type: none">• Open AutoML <i>Supervisor:</i> Prof. Matin Hashemi <i>Topic:</i> Researched on open AutoML libraries and compared them with each other to run them on multi node multi GPU environment.	June 2023 – Sep 2023

SELECTED ADVANCED COURSES

- Graduate Courses: Deepleaning, CS239[†], CS231[†], Random Prcess [†], Game theorey (This semester), Advanced Topics in Probability(Random Walks)(This semester)[†], Reinforcement Learning(This semester).
- Undergraduate Courses: Introduction to machine learning, Signal and System, Optimization (This semester).

[†] Audited or Currently Auditing

SELECTED ADVANCED COURSE PROJECTS

- Estimation Maximization for Mixture of Gaussians [[code and report](#)]
- Multiple deep learning projects [[code](#)]
- Implementation of GANBERT model for text classification task. [[code and report](#)]

TEACHING EXPERIENCES

Teaching Assistant, Sharif University of Technology, Tehran, Iran.

- Undergraduate Courses:
- Engineering Mathematics (Spring 2023)
- Probability and Statistics (Spring 2023 & Spring 2024)
- Signal and System (Fall 2023 & Spring 2024)
- Introduction to Machine Learning (Fall 2023 & Spring 2024)
- Mathematical Methods in Engineering (Linear Algebra) (Fall 2023 & Spring 2024)

VOLUNTEER EXPERIENCE

- Scientific associate principal, Central Council of Electrical Engineering Student Association at Sharif University of Technology (Resana) June 2023 – Present
Resana is the scientific community at the Electrical Engineering department at Sharif University of Technology.
- Central Council Member, ReACT 2024 Dec. 2024
ReACT 2023 was one of the most significant conferences in 2023 in Iran, having 1500 participants and 33 prominent speakers.
- Head, Head of First AIVengers Summer School June 2023 – Sep 2023
AIVengers is a student event in the field of artificial intelligence and machine learning, with teachers from Stanford and Sharif University of Technology whom are PHD students.
- HR, ReACT 2023 Dec. 2023

SKILLS

- Programming: Python (OpenCV, NumPy, Pandas, Scikit-learn, PyTorch, etc.), MATLAB, C++, Java, MySQL
- Document Creation: \LaTeX , Microsoft Office
- Languages: Persian, English, Azerbaijani, Turkish, Russian (Elementary)