Sepehr Kazemi Ranjbar

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Education

2020-now **Sharif University**, *B.Sc., Electrical Engineering, Communication Systems.*
GPA: 18.36/20

2016-2020 **Allameh Tabatabaei High School**, *High School Diploma, Physics and Mathematics.*
GPA: 19.83/20

Research Interests

- (Multi-Modal) Large Language Model
- Explainability and Robustness of Machine Learning Systems
- Graph Neural Networks
- Reinforcement Learning

Publications

Conference Papers

1. **Sepehr Kazemi Ranjbar** and Emad Fatemizadeh. ExIQA: Explainable Image Quality Assessment Using Distortion Attributes, WACV 2025
2. **Sepehr Kazemi Ranjbar***, Ali Rasekh*, Milad Heidari, and Wolfgang Nejdl. ECOR: Explainable Clip for Object Recognition, AAAI 2025
3. Ali Mamaghani, Ali Nourian, Negin Mohtaram, Alireza Shokrani, Seyed Mohsen Nasiri, **Sepehr Kazemi Ranjbar**, Alireza Mohammadi, Navid Nikaein, and Babak Hossein Khalaj. LLM for 5G Network Management. ICLMCN 2024

In-Processing Papers

4. **Sepehr Kazemi Ranjbar**, Mohammad Ostadmohammadi, HamidReza Rabiee and Arash Amini. GNTIN: Graph Neural Temporal Interaction Network.
5. **Sepehr Kazemi Ranjbar***, Ali Rasekh*, Simon Gottschalk and Wolfgang Nejdl. Generative Explinabale Image Classification via Identifying Rationales.
6. Ali Rasekh, AmirAbass Afzali, Borna Khodabande, **Sepehr Kazemi Ranjbar**, Simon Gottschalk and Wolfgang Nejdl. A DPO framework for Addressing Adversarial Attacks to Vision Language Models.

Research Experiences

2023-present **L3S Laboratory, Hannover, Germany**
Working with Ahmet Iscen (Google DeepMind) and Prof. Wolfgang Niedel (Leibniz University). Doing research projects about Explainability and Robustness of Vision Language Models. Resulted to a publication [2] and two are in processing [5,6].

2023-present **Sharif University of Technology, Electrical Engineering Department**
Working with Prof. Emad Fatemizadeh (Sharif University of Technology). Doing research projects about application of Vision Language Models in Image Quality Assessment. Resulted in one publication [2].

2023-present **DML Laboratory, Tehran, Iran**
Working with Profs. HamidReza Rabiee and Arash Amini (Sharif University of Technology). Doing a research project about Graph Temporal Interaction Network. One publication is in processing [4].

2023-2024 | **5G Laboratory, Sharif University of Technology / Eurecom Research Center, Biot, France**
Worked with Prof. Babak Khalaj (Sharif University of Technology) and Prof. Navid Nikaein (Eurecom Research Center). Did a research project about utlizing LLMs for 5G network managment. Resulted to a publication [3].

Selected Courses

Graduate Courses

- Security and Privacy in Machine Learning (on-going)
- Deep Generative Models (on-going)
- Reinforcement Learning(19/20) (Project: Presenting recent advancements in language-based reinforcement learning.
- Game Theory(18/20) (Project: Modeling resource allocation in a communication network with stable matching and auction
- Computer Vision(17.7/20)
- Deep Learning(17.1/20) (Project: GAN-Bert: a semi-supervised learning method for text classification → link)
- Image Processing (20/20) (Project: SR-GCN: a GNN for Image Super Resolution → link)

Under-Graduate Courses

- Introduction to Machine Learning (20/20) (Project: Denoising of images based on mixture models → link)
- Microprocessor Systems (20/20) (Project: Presenting of recent advancements in ARM architecture)
- Computer Architecture (18.2/20) (Project: Building a calculator with floating point operations on STM-32 → link)
- Introduction to Robotic Systems (18/20) (Project: Simulation of a manipulator and a mobile robot → link)
- Digital Signal Processing (19.1/20) (Project: Circle detection based on wavelet transform → link)
- Signal and System (20/20) (Project: Song Detection based on Fourier Transform → link)
- Convex Optimization (17.2/20)
- Object Oriented Programming (20/20) (Project: Building Farm Frenzy 3 with JAVA → link)

Teaching Assistance

2024 Digital Image Processing (*Prof. Emad Fatemizadeh*)
2023 Machine Learning (*Prof. Mohammad B. Shamsollahi*)
2023 Commiuncation Systems (*Prof. MohammadReza Pakravan*)
2023 Electric Circuits Theory (*Prof. Emad Fatemizadeh*)
2022 Engineering Mathematics (*Prof. Davood Poreh*)
2022 Electrical Circuits and Lab (*Prof. Emad Fatemizadeh*)

Honors and Awards

2019 Silver Medal of 32th physics Olympiad of IRAN
2020-persent Top 15% GPA of my class

Languages

English: Fluent
Persian: Native

Skills

Programming Skills: Python, C/C++, Matlab, Java, Assembly
Computer Skills: PsPice, Proteus, MPLAB, Linux(ubuntu,Kali), Comsol, LaTeX