

Mohammadreza Mofayezi

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Education

Sharif University of Technology

Tehran, Iran

Bachelor of Science in Computer Engineering

Sep. 2019 - Jan. 2024 (Expected)

- **GPA:** 18.50/20.0 (Major: 18.81/20.0 | Last Year: 19.19/20.0)
- **Selected Courses:** Artificial Intelligence | Machine Learning | Modern Information Retrieval | Bioinformatics | Linear Algebra | Probability and Statistics | Design of Algorithms | Signals & Systems | Advanced Programming
- **Online Courses:** CS231n: Convolutional Neural Networks for Visual Recognition - Stanford University | Fundamentals of Reinforcement Learning - University of Alberta (Coursera certification)

Publications

- Mohammadreza Mofayezi and Yasamin Medghalchi. Benchmarking robustness to text-guided corruptions. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, 2023
- Saeed Saadatnejad, Ali Rasekh, Mohammadreza Mofayezi, Yasamin Medghalchi, Sara Rajabzadeh, Taylor Mordan, and Alexandre Alahi. A generic diffusion-based approach for 3d human pose prediction in the wild. In *International Conference on Robotics and Automation (ICRA)*, 2023

Preprints

- Mohammadreza Mofayezi, Reza Alipour, Mohammad Ali Kakavand, Ehsaneddin Asgari. M³Face: A Unified Multi-Modal Multilingual Framework for Human Face Generation and Editing. *preprint*, 2024

Research & Work Experiences

Sharif University of Technology (SUT)

Tehran, Iran

Bachelor Project Under the Supervision of Dr. Ehsaneddin Asgari

July 2023 - Current

- Worked on multi-modal multilingual human face generation and editing.
- Introduced a framework for generating and editing face images through facial landmarks and semantic segmentation.
- Proposed a large-scale multi-modal multilingual face dataset with more than 150K images.
- The work was submitted to the ICML 2024 conference.

Max Planck Institute for Informatics (MPII)

Remote

Undergraduate Research Assistant Under the Supervision of Prof. Adam Kortylewski | GVRL Lab

Dec. 2022 - Mar. 2023

- Proposed a novel benchmark for evaluating the robustness of image classifiers to text-guided corruptions.
- Introduced a set of hand-engineered prompts for each ImageNet sub-class to generate better image manipulations.
- The work resulted in a paper accepted at the CVPR 2023 Workshop on Generative Models for Computer Vision.

École polytechnique fédérale de Lausanne (EPFL)

Remote

Undergraduate Research Assistant Under the Supervision of Prof. Alexandre Alahi | VITA Lab

Oct. 2021 - July 2022

- Formulated the task of human motion synthesis with a diffusion process that starts from a Gaussian noise and generates a human pose.
- Proposed a novel generative diffusion model for human motion reconstruction and prediction from incomplete and noisy data.
- Conducted experiments on different aspects of the model, such as the diversity of the generated motion and its accuracy.
- The work resulted in a paper accepted at ICRA 2023 and NeurIPS 2022 Workshop on Score-Based Methods.

MadLlama Game Studio

Tehran, Iran

Augmented Reality Developer

Oct. 2020 - Jan. 2022

- Worked on Mobile AR Games with ARCore, ARKit, and Unity and published two games to the App Store.
- Developed a fully automated system for generating a Japanese-style environment for the Remortal game.
- Implemented an optimized road mesh generation tool with the ability to compress or decompress the mesh.

Research Interests

Computer Vision

- Representation Learning
- Generative Models

Vision and Language

- Multi-Modal Learning
- Vision-Language Reasoning

Machine Learning

- Trustworthy and Safe ML
- Robust Learning and Fairness

Voluntary Teaching Experiences

Artificial Intelligence, Instructor: Prof. Rohban and Soleymani

Spring 2022 - Fall 2023

Head TA of the course (S2023, F2023). Designed and graded assignments (S2022 and F2022).

Probability and Statistics, Instructor: Prof. Sharifi-Zarchi

Fall 2021

Designed and graded assignments, quiz and created educational materials.

Data Structures and Algorithms, Instructor: Prof. Safarnejad

Fall 2021

Designed and graded assignments.

Fundamentals of Programming (C, C++), Instructor: Prof. Fazli and Fakouri

Fall 2020, Fall 2021

Designed and graded assignments. Created reading materials.

Other Experiences

Machine Learning Challenge (MLC)

Tehran, Iran

Organized the first Machine Learning Challenge in AI course of Sharif University of Technology.

June 2023

Reviewer at ICML 2023

Online

Reviewed paper for ICML 2023 Workshop on Structured Probabilistic Inference & Generative Modeling

June 2023

Made in Lobby 2021

Tehran, Iran

Created technical content about Unity Engine for the Game Design Workshop at Made in Lobby.

Summer 2021

Gamein 2020 Contest

Tehran, Iran

As a member of the Technical Staff, developed a large-scale multiplayer game with Unity3D and C#

Summer 2020 - Fall 2020

Notable Projects

RobuText

MPIL, Germany

CVPRW 2023

Spring 2023

- Official implementation of "Benchmarking Robustness to Text-Guided Corruptions". [GitHub Link](#)

DePOSit

EPFL, Switzerland

ICRA 2023

Fall 2022

- Official implementation of "A generic diffusion-based approach for 3D human pose prediction in the wild". [GitHub Link](#)

Breast Cancer Survival Prediction

Tehran, Iran

Machine Learning Course, Prof. Sharif-Zarchi

Spring 2023

- Implemented different ML models for breast cancer survival prediction. [GitHub Link](#)

Hand Gesture Detection

Tehran, Iran

Hardware Lab Course, Prof. Ejlali

Spring 2023

- Developed a hand gesture detection system on Raspberry Pi. [GitHub Link](#)

WeTube

Tehran, Iran

Computer Networks Course, Prof. Jafari

Spring 2022

- Developed an online streaming app with Django framework. [GitHub Link](#)

Honors and Awards

2019 **Winner**, 2nd Team in Spaghetti Code Contest

2019 **Award**, Scholarship Award of National Elites Foundation

2019 **Top 20**, University Entrance Exam; 1st rank among more than 50k students, 15th among 250k students

Skills

Programming

Python, C#, C/C++, Java, R, SQL.

Machine Learning Tools

PyTorch, Tensorflow, NumPy, Pandas, Scikit-learn, Matplotlib.

Game Engine

Unity for Game and Cinematic.

Data Management & Databases

PostgreSQL, MySQL, MongoDB, Redis.

Graphical Design Tools

CorelDraw, Adobe Photoshop, Adobe Illustrator.

Frameworks & Programming Knowledge

Spring Framework, Rest API, WebSocket.

Miscellaneous

Linux, \LaTeX , Microsoft Office, Git.

Languages

English

TOEFL iBT 109 (R29, L27, S27, W26)

Persian

Native proficiency

German

Elementary proficiency

References

Prof. Alexandre Alahi

École polytechnique fédérale de Lausanne (EPFL Switzerland)

Email: alexandre.alahi@epfl.ch **Webpage:** people.epfl.ch/alexandre.alahi

Prof. Adam Kortylewski

Max Planck Institute for Informatics (MPII Germany)

Email: akortyle@mpi-inf.mpg.de **Webpage:** gvr1.mpi-inf.mpg.de

Dr. Ehsaneddin Asgari

Volkswagen Group AI Expert Center at Data:Lab

Email: asgari@berkeley.edu **Webpage:** llp.berkeley.edu/asgari/

Prof. Mohammad Hossein Rohban

Sharif University of Technology (SUT Iran)

Email: rohban@sharif.edu **Webpage:** sharif.edu/~rohban/