

Amirhossein Kazerouni

Phone: +989172372276

E-mail: amirhossein477@gmail.com

Website: amirhossein-kz.github.io

Google Scholar: [Publications](#)

GitHub: [Link](#)

Education

Bachelor of Science: Electrical Engineering – Subfield: Control

Iran University of Science and Technology (IUST) – Tehran

2017-09
Present

(Among the top 4 universities in Iran based on [QS](#))

- **GPA:** 17.89/20 (**3.85/4**)
- **Thesis topic:** Design, Simulation, and Construction of an Autonomous Vehicle with Environment Perception, Planning, and Control Capabilities. (**Thesis Grade: 20/20**)

Supervisor: Dr. Saeed Shamaghdari

Publications

M. Soltany Kadarvish*, H. Mojtahedi*, H. Entezari Zarch*, **A. Kazerouni***, A. Morsali, A. Abtahi, and F. Marvasti, "Ensemble Neural Representation Networks." Under review in the ICASSP 2022, [arXiv](#), [GitHub](#)

** Equal Contribution*

Research Interests

- | | | |
|----------------------|--------------------------|---------------------------|
| ▪ Computer Vision | ▪ Computer Graphics | ▪ Artificial Intelligence |
| ▪ 3D Vision | ▪ Neural Representations | ▪ Machine Learning |
| ▪ GANs | ▪ 3D Shape Analysis | ▪ Deep Learning |
| ▪ Object Recognition | ▪ Action Recognition | ▪ Autonomous Vehicles |

Honors and Awards

- Ranked **3rd** among **41 students who chose Control as a subfield**, IUST, Iran
- Ranked **4th** among **127 Electrical Engineering students**, IUST, Iran
- Ranked **1st** in the national Rahnesan competitions for autonomous vehicles, INEF, Feb 2021
- Ranked **2nd** in FIRA World Cup Competitions in Autonomous Cars League, Federation of International Robot-soccer Association, Jun 2021
- Ranked **1st** in the **A-lympiad World Mathematical Competition-National Stage**, November 2015
- Hold a **diploma** from the **A-lympiad World Mathematical Competition-World Stage**, Netherlands, Utrecht University, Freudenthal Institute for Science and Mathematics Education, March 2016
- Ranked within the **top 1%** among approximately 148,000 participants in the National University Entrance Exam, Iran, Summer 2017

Research Experience

2021-03
Present

Machine Learning and Computer Vision Researcher at [DGSculptor](#), Montreal, Canada

- Worked on the "**Ensemble Neural Representation Networks**" paper and proposed a novel suboptimal ensemble architecture for Implicit Neural Representation (INR).
- Currently, I'm working on using hyper-networks for Super-Resolution

2019- 09
2021- 05

AI Researcher at AI and Control Lab, IUST, Tehran

Supervisor: Dr. Saeed Shamaghdari

- Worked on "Fusion-Based 3D Shape Analysis in a Noisy Environment" project.

- 2019-12 **Computer vision Researcher at the University of Tehran, INEF, University of Tehran, Tehran**
2020- 09 **Supervisor:** Dr. Mohammad Ali Akhaee, Associate Professor at the University of Tehran
- Worked on “Statistical and Semantic Analysis of Football Game” project.

Teaching Experience

- Spring **Teaching Assistant of “Principles of Mechatronics” at IUST**
2021 **Instructor:** Dr. Saeed Shamaghdari

Working Experience

- 2020- 07 **CEO and Co-founder at AIR (Artificial Intelligence and Robotics) Center, ([Link](#))**
Present
 - Teaching and mentoring in Deep Learning, Machine Learning, and Python courses

Major Projects

- 2021- 03 **Persian-OCR ([Link](#))**
Present
 - Developed software in Python that lets you label your desired language words with AI.
- Sep 2021 **Design, Simulation, and Construction of an Autonomous Vehicle with Environment Perception, Planning, and Control Capabilities ([link](#))**
(Defended) **Supervisor:** Dr. Saeed Shamaghdari
- Designed and built a toy self-driving car from scratch
- Summer **Autonomous Car Simulation Based on AVIS Engine, 2021 FIRA World Cup Competitions ([link](#))**
2021
 - Developed an autonomous car having control and environment perception capabilities
- 2020- 09 **Autonomous Vehicle Environment Perception, National Rahneshtan Competitions ([link](#))**
2021- 01
 - Designed and coded an environmental perception system for autonomous vehicles
- 2020- 09 **Automatic Parallel Parking, National Rahneshtan Competitions ([link](#))**
2021- 01
 - Implemented a parallel parking system that includes path planning, path tracking, and parallel parking
- 2019- 09 **Fusion-Based 3D Shape Analysis in a Noisy Environment Using Stereo Camera ([link](#))**
2021- 05 **Supervisor:** Dr. Saeed Shamaghdari
- Proposed a fusion-based multi-stage approach that performs 3D shape analysis on vehicles to measure the amount of load protrusion
- 2019- 12 **Statistical and Semantic Analysis of Football Game ([link](#))**
2020- 09 **Supervisor:** Dr. Mohammad Ali Akhaee
- Created the bird’s eye view of the soccer field by predicting the homography matrix using GANs
 - Created a Telegram bot with PHP to collect voice data to create a voice spotting dataset
- 2020 **3D noisy point cloud alignment for a custom dataset with PointNetLK**

Software Skills

- **Programming Languages**
 - Python, MATLAB, C/C++
- **AI Tools/Libraries**
 - PyTorch, TensorFlow, OpenCV, NPM (NumPy - Pandas - Matplotlib), etc.
- **Others**
 - Linux, Latex, Git, Familiar with HTML, CSS, PHP

Languages

Persian

Native

English

C1 Proficiency

IELTS (Academic): (Listening: 8, Reading:7, Speaking:6.5, Writing:6.5, **Overall:7**)

References

- **Dr. Saeed Shamaghdari (My supervisor during my undergraduate study)**
Assistant Professor at Iran University of Science and Technology, Tehran, Iran
Director of AI and Control Lab, Iran University of Science and Technology
Email: shamaghdari@iust.ac.ir
- **Dr. Saeed Ebadollahi**
Assistant Professor at Iran University of Science and Technology, Tehran, Iran
Iran University of Science and Technology
Email: s_ebadollahi@iust.ac.ir
- **Dr. Alireza Morsali**
Research Associate at McGill University, Montreal, Canada
Email: alireza.morsali@mail.mcgill.ca