Mohammad Javad Ranjbar | CV

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Education

o **Bachelor of Science**   2016-2021

⚛ Amirkabir University of Technology(AUT) – Tehran Polytechnic   Tehran–Iran
- Electrical Engineering
  · Last four semesters GPA : **3.61/4** via 64 passed credits
- Thesis Title: Facial Expression Recognition
  Supervisors: Dr. Mohammad Bagher Menhaj and Dr. Hassan Taheri

Internships and Work Experience

o 🏛 **Teacher at RAMANTech Robotics and Programming School(FIRA Academy)** 2020-2021
- Course name: An Introduction to Machine Learning and Computer Vision

o **Member of the production team of SWIMBot Robot** (Designed for **Diginext**) March 2021
- SWIMBot is a platform for implementing various applications such as image processing, mapping, obstacle avoidance and more.

o ⚛ **Innovation Center of Amirkabir University of Technology** September 2019- December 2020
- Member of executive committee.

o **Internship at Canavat electric Iranian Arvand**   Summer 2020
- I designed a low priced IR-remote dimmer using microcontrollers such as Arduino nano.

o 🤖 **Staff member at The International Conference on Robotics and Mechatronics**
- Member of secretariat team.   November 2019

o **Freelance Graphic Designers**   2016 - 2018
- I designed posters, logos and helped in holding events.

Technical and Personal Skills

Programming/Scripting: Python (Tensorflow, Keras, NLTK, OpenCV, SciPy, Scikit-learn, Pandas, Matplotlib, Numpy, Pygame, Pyaudio, Threading, PyQt, Xlsxwriter), C/C++, C#, Matlab, VHDL, Assembly, HTML, MySQL, LaTeX

Simulation Tools and HardWares: ARM(STM32), Arduino, Raspberry Pi, NodeMCU, Simulink, Proteus, H SPICE, Advanced Design System.

IDEs/Tools: Jupyter Notebook, Google Colab, Visual Studio, Keil5, STM32 Cube MX, Microsoft Office, Word, Excel, PowerPoint, Adobe Photoshop, Adobe Premiere, Adobe Animate, After Effects, Unity, Git, Docker

Language: Persian(Native), English(Fluent), Toefl Score: 107 (R: 29, L: 30, S: 24, W: 24)

Selected Project

- **Prediction of application's category based on their description**   Personal Project
  Using NLTK and Hazm libraries to handle Persian language and training various models for predicting the correct category.

- **Game Recommender**   Personal Project
  Implementing collaborative filtering to recommend games to users based on the similarity of users' history.

- **Snake game with Voice Control, Motion Detection**   Instructor : Dr. Amir Jahanshahi
  I implemented the game with the help of the Pygame module, for the Voice control I trained a model with 4 wake words, for motion control I detected the movement of a specific colour and for the gesture recognition I trained a CNN model with 4 gestures.

- **Self-driving Car**
  Using OpenCV to detect lanes and control the car movement in the Avis Engine simulator.

- **Handwriting Digit Recognition**   Instructor : Dr. Sanaz Seyedin
  I used Mnist dataset to train different convolutional neural network (CNN) with different activation functions and learning rates and compared their effects on loss and accuracy.

- **Fruit Classification using Deep Learning**   Instructor : Dr. Farzaneh abdollahi
  I trained a Convolution Neural Network (CNN) with help of TensorFlow, for 4 different fruit and achieved high accuracy on test data. additionally, I used a pre-trained YOLO network for real-time fruit classification.

- **Titanic: Machine Learning from Disaster**   Instructor : Dr. Farzaneh abdollahi
  First, I analyzed the data and eliminated the irrelevant features then I used multiple machine learning methods (Decision Tree, KNN and ...) to get the best result and finally, I achieved an accuracy around 71 percent.

- **2x2 Rubik's Cube Solver**   Instructor : Dr. Amir Jahanshahi
  I implemented a program that user can play with 2x2 Rubik using commands. Also, user can give colors for the cube and the program will solve the Rubik using DLS(depth limited search) and will print the needed moves.

- **Face Recognition System**   Instructor : Dr. Amir Jahanshahi
  Projecting image of face to subspace and classifying the face based on comparing its position in the face space with the positions of the known individuals. (Eigenfaces method)

More projects on my Gitub

Honors and Awards

- Ranked within the top 0.25 percent among approximately 165000 participants in the National Entrance Examination from Iranian universities.   2016

- Accepted to take part in "Iranian Physics Olympiad stage 2 " from top 5 percent of participants.   2015

- Accepted Three times to take part in "Iranian Olympiad on Astronomy and Astrophysics stage 2 " from top 5 percent of participants.   2013, 2014, 2015

NOTABLE COURSES

- Introduction to Computational Intelligence   A
- Introduction to Computational Intelligent lab A+
- An Introduction to Machine Learning   A

- Microprocessor Systems Interfaces Lab   A+
- Computer Programming   A
- Advanced Programming   Pass

⌨ Online Courses

- Machine Learning   (In progress)
  - Instructor :Andrew Ng
  - Offered By :Stanford University

- Deep Learning Specialization   (In progress)
  - Instructor :Andrew Ng
  - Offered By :Stanford University