

Mahdi Darvish

MahdyDarvish@Gmail.com
mahdi-darvish.github.io
Phone : +98 (933) 272-6572

EDUCATION

| | |
|---|--|
| Bachelor of Science in Computer Engineering | 2018 – 2022(Expected) |
| <i>Cumulative GPA : 3.82 / 4.00 till now via 109 credit (31 left)</i> | <i>University of Mohaghegh Ardabili, Ardabil, Iran</i> |
| <ul style="list-style-type: none">Ranked 1st cumulative GPA within the top 1% of graduating classCapstone Project: "Towards Fine-grained Image Classification with Generative Adversarial Networks" | |
| High School Diploma in Mathematical physics | 2013 – 2017 |
| <i>Cumulative GPA : 4.00 / 4.00</i> | <i>Allameh Helli High School, Tehran, Iran.</i> |
| <ul style="list-style-type: none">Member of National Organization for Development of Exceptional Talents (NODET) | |

RESEARCH INTERESTS

Computer Vision: Generative Models, Object Recognition, Optimization, Image Restoration, Segmentation, Object Detection and Tracking, Vision Transformers and Image generation
Natural Language Processing: Visual Description, Image Captioning, Text-to-Image Generation
Robotics: Perception, Learning and Classification, Vision-aided Navigation

PUBLICATIONS

| | |
|---|-----------------------|
| Towards Fine-grained Image Classification with GANs and Facial Landmark Detection | July 2021 |
| <i>Mahdi Darvish, Mahsa Pouramini, Hamid Bahador [arXiv] [Codes]</i> | |
| <ul style="list-style-type: none">Accepted on International Conference of Machine vision and Image ProcessingBoosted performance of StyleGAN2-ADA by manipulating datasets according to facial landmarks.Achieved state-of-the-art results in fine-grained classification with Vision Transformer models. | |
| Art Generation in Deep Learning: A Survey | Dec. 2021 (Expected) |
| <i>Mahdi Darvish, Ashkan Ganj, Mahsa Pouramini, Seyed Hamid Safavi</i> | <i>In Preparation</i> |
| <ul style="list-style-type: none">A survey on different methods on generating illustrative arts with deep learning.Comparing Contrastive Unpaired Translation, Neural Style Transfer, GAN-based generators, etc. | |

PROJECTS

| | |
|---|---------------|
| Comparative Analysis of ConvNet Architecture on Bird Species Dataset [Github] Python, Tensorflow | March 2021 |
| <ul style="list-style-type: none">Visualized and compared 5 convolutional neural network architectureAnalysed models: AlexNet, VGG16, InceptionV3, ResNet and MobileNet | |
| Instance Segmentation with Mask R-CNN [Github] Python, Keras, Tensorflow | Jan 2021 |
| <ul style="list-style-type: none">Fine-tuned Mask R-CNN on a certain category collected from OpenImages datasetImproved the model's performance with precise fine-tuning | |
| YOLOv3 from Scratch: Analysis and Implementation [Github] Python, Torch, OpenCV | December 2020 |
| <ul style="list-style-type: none">Implemented the famous model YOLO from scratchExperimented with the results and compared to the state-of-the-art benchmarks | |
| COVID-19 Analysis and Visualization [Github] Python, Pandas, Matplotlib, Seaborn, Plot.ly | August 2020 |
| <ul style="list-style-type: none">Tracked and visualized the spread of COVID-19 worldwideUsed over 15 types of graphs and charts to analyse the data | |

TEACHING ASSISTANT

| | |
|--------------------------------------|---|
| Design of Algorithms | Fall 2021 |
| <i>Instructor: Masumeh Kheyri</i> | <i>Department of computer engineering, University of Mohaghegh Ardabili</i> |
| Database Systems Design | Winter 2020 |
| <i>Instructor: Ahmad TaghiNezhad</i> | <i>Department of computer engineering, University of Mohaghegh Ardabili</i> |
| Discrete Mathematics | Winter 2020 |
| <i>Instructor: Masumeh Kheyri</i> | <i>Department of computer engineering, University of Mohaghegh Ardabili</i> |

COURSEWORK

Robotics Specialization

September 2021

Offered by University of Pennsylvania through Coursera [[Certificate](#)]

- Courses Included: Aerial Robotics, Computational Motion Planning, Mobility, Preception, Estimation and Learning

Deep Learning Specialization

February 2021

Authorized by DeepLearning.AI and offered through Coursera [[Certificate](#)]

- Neural Networks and Deep Learning
- Hyperparameter Tuning, Regularization and Optimization
- Structuring Machine Learning Projects
- Convolutional Neural Networks and Sequence Models

Machine Learning course

November 2020

Offered by Stanford University through Coursera [[Certificate](#)]

- Skills Gained : Logistic Regression, Artificial Neural Networks, Machine Learning Algorithms, Machine Learning

HONORS & AWARDS

Awarded distinguished student in department of electrical and computer engineering

2018 - Current

University of Mohaghegh Ardabili

Ardabil province, Iran

Ranked 1st in the 2nd UMA Copa Code (programming contest)

Winter 2020

Held by department of computer science

University of Mohaghegh Ardabili

Ranked 3rd in the Code Cup of Mohaghegh (CCM)

Winter 2020

Held by department of electrical and compuer engineering

University of Mohaghegh Ardabili

Qualified in Level 2 of Iranian National Olympiad in Informatics

2015 & 2016

Young Scholars Club

Tehran province, Iran

Chosen Student For National Organization for Exceptional Talents Schools

2014

Allameh Helli High School

Tehran province, Iran

TECHNICAL SKILLS

Programming Languages: Python, R, C++, Octave

Tools: Jupyter Notebook, Tableau, SQL, ~~W~~TeX, Git, Docker

Python Libraries: Keras, Torch, Tensorflow2, Matplotlib, Seaborn, OpenCV, Numpy and Pandas

Operating Systems: Linux, Windows

LANGUAGES

Persian: Native

English: Fluent

- IELTS band score: 7.5 (L:8.5, R:8.5, W:6.5, S:6.5)