

Fatemeh Siar

COMPUTER ENGINEER & SCIENCE

Tehran, Iran

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Education

Amirkabir University of Technology (Tehran Polytechnic)

MSC IN COMPUTER SCIENCE

- Courses GPA: 17.88, Total GPA:18.19 out of 20 (Rank 1/Total): 3.8/4
- Thesis: Visual Representation Learning by Sorting Long Sequences.

Major:Computer Vision

sep 2018- Oct 2020

Semnan University, Iran

MSC IN COMPUTER ENGINEERING(ARTIFICIAL INTELLIGENCE)

- Total GPA:15.51 out of 20
- Thesis: Improvement on Content Aware Image Retargeting.

Major:Computer Vision

sep 2013- March 2015

Islamic Azad University

BSC IN COMPUTER SCIENCE-SOFTWARE ENGINEERING)

- Total GPA:15.85 out of 20. GPA: 16.05 out of 20 in Relevant Courses.

sep 2007- March 2011

Hochschule Darmstadt University of Applied Sciences_Winter School (7 ECTS)

INTERNATIONAL WINTER UNIVERSITY PROGRAMME 2021_VIRTUAL(PANDAMIC YEAR)

- Digital Society(ies)
- German Language

Online, Germany

Jan 2021

Online Certificate

MLOps (Machine Learning Operations) Fundamentals.

OFFERED BY GOOGLE CLOUD TRAINING

Google Cloud/Cousera

Jan 2020

NLP: Building Transformer-Based Natural Language Processing Applications

OFFERED BY NVIDIA, ID: 8A11C53BE5164149AA403A789B6E3AB7

NVIDIA Deep Learning Institute

Nvidia GTC, April, 2021

Learning Python

LINKEDIN LEARNING

Linkedin

2020

Research Interests

- Computer Vision → Visual Representation Learning → Video Understanding → Action Analysis
- Computer Graphic → Image Manipulation → Image Retargeting
- Image and Video Processing → Medical Image Processing
- Machine Learning /Deep Learning → ResNet → GAN →Federated Learning → Merging Models
- Natural language processing & Speech Processing

Highlighted Research Experience(Top 5)

GAN : MY JOB: GENERATING FAKE IMAGES/EDITING

- StyleGAN, StyleGAN2, PGGAN and GenForce lab works (InterFaceGAN, Sefa, Ghfeat, etc.) were the main focus of mine.

Python/TensorFlow/Pytorch/ Colab

ANOMALY DETECTION VIDEO/DEFINED_OBJECT. : TEAM LEADER/6MTH COMPETITION

- We created our own model for Fight detection. Also we examined some popular models.

Python/TensorFlow/Pytorch/ Colab

VISUAL REPRESENTATION LEARNING USING SEQUENCES SORTING: MY SECOND MSc THESIS

- Proposed a model for visual representation learning by solving order prediction tasks and achieved 20% improvment(Vs state of art).

Python/Pytorch/ Colab

CONTENT AWARE IMAGE RETARGETING: MY FIRST MSc THESIS

- The computational time of seam carving is reduced by (Method_I)image segmentation & graph theory. (Method_II) Odd&Even decomposition.

Matlab, GUI

SPEECH RECOGNITION_ARABIC PRONUNCIATION ANALYSIS

- We extracted different features from the speech signal and examined the impact of each feature in the pronunciation classification.

Matlab, GUI

Technical Experience

Research Assistantship

AMIRKABIR UNIVERSITY OF TECHNOLOGY, TEHRAN, IRAN.

- Research Topic: Application of Computational Geometry in Computer Vision.

ACG Lab, Ali Mohades, Amin Gheibi

2018-Present

Teaching Assistance

AMIRKABIR UNIVERSITY OF TECHNOLOGY, TEHRAN, IRAN.

- In Advanced Programming(C++/C)

Tehran

2019-Present

Teaching Assistance

ISLAMIC AZAD UNIVERSITY, IRAN.

- In Advanced Programming(C++/C)

Sari

2011

Organizing committee member

AMIRKABIR UNIVERSITY OF TECHNOLOGY, TEHRAN, IRAN.

- Organizing committee member of eleventh Winter School on Computational Geometry

WSCG 2019

Tehran

Freelancer & Researcher

SOME PROJECTS

- Software Dev(Matlab code & GUI): Image manipulation, Automatic scanned image corrector: Rotate, Crop, ...
- Researcher(Pytorch): Super Resolution
- Researcher(Pytorch): Fake Image generation & edit, PGGAN, StyleGAN, InterFaceGan.
- Researcher(Pytorch): Action analysis.
- Researcher(Matlab code & GUI): Speech Analysis, Image Manipulation.

AUG 2014-now

Technical Skills

Programming Languages:

Python, Matlab, Java, C/C++, SQL, Pascal & Basic

Software libraries and distributions:

Pytorch, TensorFlow, Sklearn, Matplot, Pandas, Numpy, PyQt,

Cloud:

Google Colab, Microsoft Azure

Graphic:

Photoshop, Reallusion iClone, Adobe Premiere

Other:

Latex, Weka, HTML, MySQL, Netbeans, Jupyter Notebook, PyCharm, Git

Honors & Awards

2021
2020

First prize and first place in Anomaly Detection category, Iran's National Elites Foundation(Rahneshan)
Ranked 1st, among master students in Computer Science

Team Competitions
AUT

Publications

• Conference and Journal paper

- Fatemeh Siar, Amin Gheibi, Ali Mohades: "Unsupervised Learning of Visual Representations by Solving Shuffled Long Video-Frames Temporal Order Prediction". *ACM SIGGRAPH 2020 Posters*, 1-2
- Fatemeh Siar, Saeed Mozaffari: "Utilization of ant colony algorithm in content aware image resizing method". *9th Annual Iran Conference on E-Learning 2015 (ICeLeT2015) (in persian)*
- Fatemeh Siar, Saeed Mozaffari, "Seam Carving Speed Improvement by Odd and Even Subimages Decomposition". *Iranian Journal of Electrical and Computer Engineering (IJECE)*, 2018 (in persian)
- Fatemeh Siar, Saeid Alirezazadeh and Fatemeh Jalali, "A novel steganography approach based on ant colony optimization," 2018 6th Iranian Joint Congress on Fuzzy and Intelligent Systems (CFIS 2018) (IEEE)
- Fatemeh Siar, Halimeh Siar, "evaluating the efficiency of deep learning in speech classification". *49th Annual Iranian mathematics conference*, 2018

• Works in Progress or Submitted

- Fatemeh Siar, Amin Gheibi, Ali Mohades: "Visual Representation Learning by Sorting Long Sequences".
- Fatemeh Siar, Saeed Mozaffari: "Image Retargeting Using Evolutionary Methods"
- Fatemeh Siar, Saeed Mozaffari: "Image retargeting using decomposition based method"

LANGUAGE SKILLS

Persian: Native language.
English: Fluent
Germany: Basic A
Arabic: Basic A+