

Fatemeh Siar

COMPUTER ENGINEER & SCIENCE
Kongens Lyngby, Denmark

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Education

Denmark Technology University

PHD AT DTU TRANSPORT

- RESCUE - Registration of Safety-Related Behavior of Vulnerable Road Users Using Computer Vision

Major: Computer vision/Road safety

August 2023-August 2026

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

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

Artificial Intelligence

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

Research Interests

- **Computer Vision : Visual Representation Learning, Video Understanding, Action Analysis**
- **Computer Graphic: Image Manipulation, Image Retargeting**
- **Image and Video Processing: Medical Image Processing**

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, Ahmad Nickabadi, Ali Mohades + my CSS team **"Temporal Jigsaw: Temporal relation in spatial domain"**. *ICLR2022: CoSubmitting Summer (CSS) Workshop*
- Fatemeh Siar, Amin Gheibi, Ali Mohades: **"Sequences Sorting Using Divide and Conquer"**. Not-Submitted
- 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)

Honors & Awards

2021 **First prize and first place in Anomaly Detection category**, Iran's National Elites Foundation(Rahneshan)
2020 **Ranked 1st**, among master students in Computer Science

Team Competitions
AUT

CONFERENCES AND COMPETITIONS [Top 8]

INTERNATIONAL CONFERENCES & SCHOOL

2022 **ICLR**, CoSubmitting Summer (CSS) Workshop: TemporalJigsaw paper
2020 **SIGGRAPH**, My thesis poster

Speaker
Poster Presentation

COMPETITIONS

2020 **Iran's National Elites Foundation(Rahneshan)**, Anomaly in image & video.
2016 **Exhibition of student achievements**, Islamic Azad University, Tehran Object Detection
2015&2013 **Amirkabir AI Competitions(AAIC)**, Face Detection & Speech Analysis

1st place
Team Competition
Team Competition

NATIONAL CONFERENCES & SCHOOL

Teaching and Technical Experience

Teaching Assistance at DTU, Denmark.

INTRODUCTION TO BUSINESS ANALYTICS, ADVANCED BUSINESS ANALYTICS, INNOVATION IN ENGINEERING (POLYTECHNICAL FOUNDATION)

Denmark

2023- 2026

Teaching Assistance Amirkabir University of Technology, Tehran, Iran.

IN ADVANCED PROGRAMMING(C++/C) AND ALGORITHM

Tehran

2019-2022

Research Assistance: Amirkabir University of Technology, Tehran, Iran.

RESEARCH TOPIC: APPLICATION OF COMPUTATIONAL GEOMETRY IN COMPUTER VISION.

ACG Lab, Ali Mohades, Amin Gheibi

2018-2022

Student Volunteer

ORGANIZING COMMITTEE MEMBER.: A CONVERSATION WITH....

ACM SIGGRAPH Frontiers team

Prof. Adam W. Bargteil- 2021

Teaching Assistance, Islamic Azad University, Iran.

IN ADVANCED PROGRAMMING(C++/C)

Sari

2010-2011

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, Automathic scanned image corrector: Rotate, Crop, ...
- Researcher(Pytorch): Fake Image generation & edit, PGGAN, StyleGAN, InterFaceGan.

AUG 2014-now

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

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

Technical Skills

Programming Languages:

Python(Since2018), Matlab(2013-2018), Java(2010:2013), C/C++(TA:Since 2018), SQL, Pascal & Basic

Cloud and Software libraries:

Google Colab, Microsoft Azure, Pytorch, TensorFlow, Sklearn, Matplot, Pandas, Numpy,OpenCv

Other:

Latex, Weka, HTML, MySQL, Netbeans, , Git, Photoshop, Adobe Premiere

LANGUAGE SKILLS

Persian:

Native language.

English:

Fluent

Germany:

Basic A

Arabic:

Basic A+

REFERENCES

- **Prof. Francisco Câmara Pereira** . DTU, Kongens Lyngby Denmark ✉ camara@dtu.dk
- **Prof. Felix Wilhelm Siebert**. DTU, Kongens Lyngby Denmark ✉ felix@dtu.dk
- **Prof. Ali Mohades** (My second M.Sc supervisor) Faculty of Amirkabir University of Technology, Tehran, Iran
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