Mohammad Reza Shafie

Curriculum Vitae

CONTACT

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SKILLS

Python	4/5
PyTorch	4/5
Matlab	3/5
Linux	3/5
C++	3/5
LaTeX	2/5
ROS	2/5

LANGUAGES

TOEFL Overall: 101
(Reading :28/30, Listening : 26/30, Speaking : 24/30, Writing : 23/30)

General GRE Overall: 324
(Verbal: 158, Quantitive: 166)

Persian :
Native or Bilingual Proficiency

EDUCATION

Iran University of Science & Technology

2021 - 2023

M.Sc. in Electrical Engineering-Digital Electronic Systems
GPA 18.42/20 (4/4)
Thesis: Age-invariant Face Recognition
Description: Employing domain adoption and face age synthesis to minimize the impact of age variation on face recognition

Iran University of Science & Technology

2017 - 2021

B.Sc. in Electrical Engineering
GPA 17.74/20 (3.77/4)
Thesis: Designing and Implementing Image Steganography model using Convolutional Neural Network on FPGA

RESEARCH INTERESTS

- Image & Video Processing
- Computer Vision
- Machine Learning
- Deep Learning
- Robotics
- Pattern Recognition

SELECTED COURSE

Statistical Pattern Recognition	4/4
Medical Image Processing	4/4
Smart Systems Design (Deep Learning and Optimization Algorithms)	4/4
Machine Vision	4/4
Digital Signal Processing	4/4
Engineering Mathematics	4/4
Machine Learning Specialization, Stanford University (Coursera)	95/100
Deep Learning Specialization: Including 5 courses, DeepLearning.AI	93/100
Generative Adversarial Networks Specialization, DeepLearning.AI	97/100
Deep Neural Networks with PyTorch, IBM (Coursera)	91/100
Introduction to Computer Vision and Image Processing, IBM	92/100
Applied Machine Learning in Python, University of Michigan	94/100
C++ Programming Fundamentals, University of Santa Cruse	95/100

HONORS AND AWARDS

- Graduated with rank 2 among 35 students of Electronics field and rank 5 among 127 entrants in Electrical engineering in Iran University of Science & Technology. (2021)
- Ranked 672nd among approximately 150,000 participants in the National Entrance Exam for Iranian Universities. (2017)
- Exempted from Iran’s Universities Entrance Exam for Master’s Degree at Iran University of Science & Technology. (2021)
- Winner of the "Financial Educational Reward" from Iran's National Elites Foundation, Iran University of Science and Technology, Iran. (2020,2021)
- Government Tuition-fee scholarship for B.Sc. and M.Sc degrees (2017 - 2021, 2021 - 2023

PUBLICATIONS

- Hamed Khosravi, Mohammad Reza Shafie, Morteza Hajiabadi, Ahmed Shoyeb Raihan, Dr. Imtiaz Ahmed, “Chatbots and ChatGPT: A Bibliometric Analysis and Systematic Review of Publications in Web of Science and Scopus Databases.” (Accepted in The International Journal of Data Mining, Modelling and Management)
- Mohammad Reza Shafie, Hamed Khosravi, Sarah Farhadpour, Srinjoy Das, Dr. Imtiaz Ahmed, “Enhancing Employee Turnover Prediction with Optimized ANNs and Data Augmentation: A Cluster-Based Approach in HR Analytics.” (Submitted to Decision Analytics Journal)
- Hamed Khosravi, Mohammad Reza Shafie, Dr. Imtiaz Ahmed, “Optimizing Forest Fire Prediction: A Comparative Analysis of Machine Learning Models through Feature Selection and Time-Stage Evaluation.” (Submitted to the Automation journal)

PROJECTS AND RESEARCH EXPERIENCE

- Developing a compact system utilizing embedded systems such as NVIDIA Jetson Orin, Nano B01, and etc, equipped with sensors like (ADIS16460, RM3100) and a hybrid model that integrates techniques like WildNav and ORB-SLAM to enable UAVs to navigate autonomously in the absence of Global Positioning System (GPS) signals. (Current project)
- 3D reconstruction application that operates in near real-time, utilizing image and video feeds to dynamically create 3D models. Employing cutting-edge technologies like Nerf, Gaussing Splatting, ECON, HRN, Meshroom, Avatar. (Funded project for Iran Broadcasting)
- Developing an intelligent referee AI system employing pose estimation deep learning models and geometry-based calculations to assess the correctness of athletes' movements (Funded project for Traditional Sports Federation of Iran)
- Continuous domain adoption for achieving age-invariant features (Master thesis on Age-invariant Face Recognition)
- Leveraging denoising diffusion implicit model for strong and high quality face morphing attacks (Voluntary research)
- Improving Road Semantic Segmentation using Deep Convolutional Generative Adversarial Network (Course project)
- High-Capacity Image Steganography using Fully-Convolutional DenseNet (Course project)
- Bird’s-Eye-View Panoptic Segmentation Using Monocular Frontal View Images (Course project)
- Image-to-image translation using Conditional GAN for image semantic segmentation (Course project)
- Bias Robust Deep Learning: Mitigating Dataset Bias by Favoring Simpler Hypotheses (Voluntary research)

WORK EXPERIENCE

- Position: **Head Member of Integration and Product Team**
  Employer: Octa Startup Accelerator (08/2023 - Present)
  Description: Part of Octa startup active in area of Industrial application of Computer Vision and Robotics. Currently working on development of a product using AI-appropriate embedded systems (Jetson Nano B01 and Jetson Orin Nano) that addresses the challenge of drone navigation and localization in GPS-denied environments using visual-inertial odometry methods.
- Position: **Member of Iran University of Science and Technology Project Team**
  Employer: Iran Broadcasting (01/2023 - 08/2023)
  Description: Producing and developing application for object and human 3D reconstruction from single and multiple images using deep learning models
- Position: **Intern in the Research & Development Section**
  Employer: ATI Bin Knowledge Enterprise (07/2020 - 09/2020)
  Description: Knowledge based enterprise focusing on designing and manufacturing Digital and Electronic equipment

REFERENCES

- Prof. Sattar Mirzakuchaki
  Department of Electrical Engineering, Iran University of Science and Technology, Tehran, Iran
  Email: m_kuchaki@iust.ac.ir
- Prof. Abdollah Amirkhani
  Department of Automotive Engineering, Iran University of Science and Technology, Tehran, Iran
  Email: amirkhani@iust.ac.ir
- Prof. Ahmad Ayatollahi
  Department of Electrical Engineering, Iran University of Science and Technology, Tehran, Iran
  Email: ayatollahi@iust.ac.ir

WORKSHOPS

- 8-Hour training course on "Python programming", Iran University of Science and Technology, May 2019, Tehran, Iran.
- 40-Hour training course on "Deep Learning", Artificial Intelligence and Robotic Center, Dec 2021, Tehran, Iran.
- 4-Hour training course on "Introduction to Reinforcement learning Algorithms", Iran University of Science and
- Technology, March 2022, Tehran, Iran.

TEACHING EXPERIENCE

- Position: **Teaching Assistant**
  Location: Iran University of Science & Technology (2021)
  Instructor & Course: Dr. Mirzakochaki & Advanced Logic
- Position: **Teaching Assistant**
  Location: Iran University of Science & Technology (2020)
  Instructor & Course: Dr. Mirzakochaki & Logic Circuits