Niloofar Azad

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EDUCATION

Sept. 2018 – Feb. 2023

Bachelor of Science, Computer Engineering

Azad University, Tehran, Iran

- **GPA**: 17.27/20.00 – 3.52/4.00 (ranked 5th out of all CE students)
- **GPA Last 2 Years**: 3.87/4.00
- **Dissertation**: **Multiclass Semantic Segmentation on Aerial Images Using Transfer Learning U-Net** (Github Link)
- **Supervisor:** Prof. Maryam Abedi

RESEARCH INTERESTS

- Computer Vision
- Deep Learning
- Machine Learning
- Image/Video Processing and Analysis
- Vision-based Navigation
- Autonomous Driving

TECHNICAL SKILLS

- **Specialized Areas**:
  - **Machine Learning:** Training ML algorithms, Data preprocessing, Data visualization

  - **Deep Learning: Computer Vision, Image Processing:**
    - Image Segmentation (CNN, U-net)
    - Video Analysis (RNN, LSTM)
    - Object Detection and Tracking (YOLO, Mask R-CNN)

- **Programming Languages: Python** (TensorFlow, PyTorch, OpenCV, sci-kit-learn, Pandas, NumPy, Matplotlib, Seaborn), C/**C++**

- **Languages:** Proficiency in **English**, Native in **Persian**
  - **IELTS (08/30/2023):** Overall 7 (Speaking: 6.5, Writing: 7, Reading: 7, Listening: 7)

EXPERIENCES

Research Experiences in Image Processing

- **Research Assistant: Azad University (October 2023 -)**
  - **Research:** A GAN-based Data Augmentation Approach for Increased CNN Performance in Alzheimer's Disease Classification Using Blood Plasma Images. (In preparation)
  - **Responsibility:** Medical Image classification with CNN and transfer learning
  - **Supervisor:** Prof. Maryam Abedi

Working Experiences: Software Engineering

- **Front-end web development intern** at [Balvin](#) Start-up – Iran (Nov. 2019 – Apr. 2020)
  Responsibilities: Developing web applications using JavaScript and React.js

SELECTED PROJECTS

- ➤ **Multiclass Semantic Segmentation on Aerial Images Using Transfer Learning U-Net** [(Github Link)](#)

- ➤ **Vehicle Detection & Tracking using Yolov8 & a Custom Object Tracker (Apr. 2023)** [(Github Link)](#)

- ➤ **Road Lane Detection with OpenCV** [(Github Link)](#)

- ➤ **Human Pose Estimation and Action Recognition Using Mediapipe and LSTM (Sept. 2023)**
  Real-time video classification for human action recognition using RNN architecture. [(Github Link)](#)

- ➤ **Real-time Facial Expression and Gender Recognition Using CNN and ResNet50 (Mar. 2022)**
  A real-time vision system for face detection, gender and facial expression classification using CNN architecture. [(Github Link)](#)

- ➤ **Breast Cancer Classification Using Supervised Machine Learning Algorithms and Artificial Neural Network (Jun. 2022)**
  Comparative analysis of performance of machine learning algorithms in breast cancer classification. [(Github Link)](#)

SELECTED WORKSHOPS/COURSE CERTIFICATIONS

- **Mastering Image Segmentation with PyTorch –** [Udemy](#) (January 2024)
- **Machine Learning Specialization** – [Coursera](#) (2023)
- **Neural Networks and Deep Learning** – [Coursera](#) (2023)
- **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization** – [Coursera](#) (2023)
- **Machine Learning** – Infinite Modern Technology (2022)
- **Python Basic University of Michigan** – [Coursera](#) (2022)
- **Programming C++** – Tehran Institute of Technology (2019)

RELATED COURSES

- **Computer Fundamentals and Programming**: 19.5 (4/4)
- **Advanced Computer Programming**: 16.5 (4/4)
- **Engineering Mathematics:** 17.5/20 (4/4)
- **Discrete Mathematics:** 17.25/20 (4/4)
- **Engineering Probability and Statistics** 17/20 (4/4)
- **Fundamentals of Computational Intelligence:** 17.75/20 (4/4)

HONORS AND AWARDS

National University Entrance Exam, 2018

Ranked within the top 2% of the Iranian University Entrance Exam for Bachelor's degree among 642,228 students.