Ali Momeni

Contact Information

Aleshtar, Lorestan, Iran

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Github

Linkedin

Education

- **Shahid Chamran University of Ahvaz** — **Ahvaz-Iran 2019-2023**
  B.Sc Computer Engineering
  Thesis: Classification of medical images of epilepsy patients using deep neural networks
  - **Total CGPA**: 16.08/20 (3.35/4)
  - CGPA of the last two semesters: 17.70/20 (3.68/4)
  - CGPA of Specialized Courses: 17.60/20 (3.63/4)
  - Thesis grade: 4/4
  - **Advisors**: Dr. Ali Bakhthemat, Dr. Seyed Enayatallah Alavi

- **Allameh Tabatabaei High School** — **Aleshtar-Lorstan-Iran 2019**
  Diploma in Mathematics
  - **GPA**: 18.21/20

Research Interests

- Computer vision based healthcare system
- Robotic Technologies in Pharmacy and Medicine
- Human-Computer Interaction
- Machine learning and deep learning approach for medical image analysis
- Remote patient monitoring
- 3D Medical image Reconstruction and Visualization
- Real-Time Video Analysis

Related Courses

- Machines & Languages Theory: A
- Principles of robotics: A
- Fundamentals of computer vision: A
- Databases: A
- Fundamentals of Natural language and Speech processing: A
- Fundamentals of computational intelligence: A
- Fundamentals of wireless networks: A

Ac*ademic Projects*

- **Classification of medical images of epilepsy patients using deep neural networks,** utilizing Pydicom, Scikit-learn, and NumPy for data loading and conversion to numerical arrays, and employing Keras and Tensorflow for the design of CNNs models. "Bachelor's Thesis", Professors A. Bakhthamat, S.E. Alavi, 2023.
- **Classification of plant disease images,** Using Transfer Learning (AlexNet), implemented with Keras and Tensorflow, Project of the Course **"**Fundamentals of computer vision**",** Prof F. Abbasi, 2023
- **To design a robot capable of executing tasks such as linear and rotational movements, wall following, and the implementation of search algorithms (A*)**. This project covers a comprehensive series of steps, ranging from the initial design phase to the implementation of artificial intelligence algorithms, Using python and Webots Simulation, Project of the Course **"**Principles of robotics**",** Prof A. Ghanbarzadeh, 2023
- **Online Warehouse system design**, system modeling and the creation of UML diagrams, including class diagrams, use case diagrams, sequence diagrams, communication diagrams, activity diagrams, etc, in Visual Paradigm, Project of the Course "software engineering Lab", Prof A. Bakhthemat, 2023
- **ARM single cycle microprocessor circuit,** using VHDL in Xilinx ISE, Project of the Course "Computer design of digital systems", Prof B. Saniei, 2023
- **Working on the network switches of the educational network of Aleshtar city,** Internship project, Prof M.J. Rashti , 2022
- **Online bookstore system design**, system modeling and the creation of UML diagrams, including class diagrams, use case diagrams, sequence diagrams, communication diagrams, activity diagrams, etc, in Visual Paradigm, Project of the Course "software engineering", Prof A. Bakhthamat, 2022
- **Implementation of the Eight-puzzle game,** utilizing UCS, IDS, IDA*, and A* search algorithms in Python. Additionally, **a Sudoku algorithm solution,** employing a simple backtracking algorithm with MRV and degree heuristics. Project of the Course "Artificial Intelligence", Prof S. Loveymi, 2022.
- **Extracting the information of the packets,** Using scapy in python**,** Project of the Course "Computer Networks ", Prof M Naderann, 2022
- **Design and implementation of an online service work order system**, involves both system modeling and the creation of UML diagrams using Visual Paradigm, as well as the practical implementation using Django, PostgreSQL, HTML, and CSS. Project of the Course "Systems Analysis and Design", Prof B. Mayahi, 2021
- **Design and implementation of a database management system including complete planning and creation of database design components.** In this context, the design phase includes system modeling and development of key database design elements, such as ERD, relational schemas, normalization processes, etc, in MySQL database. Project of the Course "Databases", Prof S Zobeidi, 2021
- **Algorithm of the Romanian road,** using Gridsearch, Graph and Python, Project of the Course"Discrete Mathematics", Prof M. Farokhian, 2020

ACADEMIC EXPERIENCE

- **Teaching Assistant for software engineering** — **Ahvaz-Iran, Jan-Jul 2023**
  Prepared and presented lectures and recitations, supported term projects, helped students with course materials, and graded homework
- **Teaching Assistant for Fundamentals of Programming** — **Ahvaz-Iran, Jan-Jul 2022**
  Manager of the teaching assistants team, Prepared and presented lectures and recitations, supported term projects
- **Teaching Assistant for advanced programming** — **Ahvaz-Iran, Sep- Dec 2021**
  Prepared and presented lectures and recitations, supported term projects, helped students with course materials, and graded homework

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Professional *Projects*

- **Analysis of electricity consumption by subscribers of Behbahan city, Iran(Sreamlit app),** In the electricity consumption analysis project, subscribers of a city, multiple electricity consumption patterns were investigated by plotly, seaborn, Matplotlib, and its web application was designed by streamlit Lib. By analyzing these patterns, efforts were made to improve productivity and sustainable management of electricity consumption in society.
- **Chest X-ray Pneumonia Classification,** a deep learning project was conducted to classify chest X-ray images to identify associated diseases accurately.
- ISNA_Cronanews, In the deep learning project, the news was categorized to identify different topics and categories accurately. Deep models were used to improve accuracy and efficiency up to 88% in analyzing and classifying news published by the Iranian Students News Agency.
- **Average car Prices - Brazil,** With expertise in machine learning regression algorithms, including EDA, Decision Tree Regressor, Random Forest Regressor,..., Catboost and XGBoost, the project improved the R2 score to over 99% through the use of effective data cleaning techniques.
- **Fake/True news classification,** A Neural Language Model was developed to classify news articles as fake or real, employing machine learning algorithms such as K Neighbors Classifier, Decision Tree Classifier, etc, from the Scikit-learn library. NLTK was integrated for enhanced natural language processing capabilities.

Related Professional Experiences

- **Behbod Gostar Andishe - Part-time** — **Ahvaz-Iran, Nov 2022 - Dec 2023**
  - ❖ Implementation of machine learning algorithms and image processing

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Certificate and Awards

- Advanced Learning Algorithms — **Coursera Feb 2024**
  - ❖ Build and train a neural network with TensorFlow to perform multi-class classification
  - ❖ Build and use decision trees and tree ensemble methods, including random forests and boosted trees

- Supervised Machine Learning: Regression and Classification — **Coursera Feb 2024**
  - ❖ Build machine learning models in Python using popular machine learning libraries NumPy & scikit-learn
  - ❖ Build & train supervised machine learning models for prediction & binary classification tasks, including linear regression & logistic regression

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Skills

- **Programming Languages**
  Python, SQL, C/C++, Java, R(Basic), VHDL/Verilog, HTML, CSS
- **Libraries**
  Keras, Tensorflow, Pytorch, Scikit-learn, Numpy, Pandas, Matplotlib, Seaborn, Plotly, Stremlit, OpenCV, NLTK, BeautifulSoup, Jupiter notebook/lab
- **Software Skills**
  Google Colab, MySQL, PostgreSQL, Linux, Git/Github, Visual Paradigm, Xilinx ISE, Webots, LATEX, Django, FastAPI, Excel**,** Bash
- **Languages**
  Farsi/ Persian: Native
  English: B2 / IELTS 6 (S:6.5, L:6, W:6, R:5.5) (Oct 4 2024)

RECOMMENDATIONS

Tutor

- **Name:** Dr. Seyed Enayatallah Alavi
- **Email:** se.alavi@scu.ac.ir
- Assistant professor in Shahid Chamran University of Ahvaz
- Bachelor's project supervisor

Tutor

- **Name:** Elham Nikookar
- **Email:** e.nikookar@scu.ac.ir / nikookar.cse@gmail.com

Tutor

- **Name:** Dr. Ali Bakhthemat
- **Email:** bakhthemmat.std@gmail.com
- Lecturer in Shahid Chamran University of Ahvaz
- Bachelor’s project supervisor