Alireza Parvaresh

Tehran, Tehran — a.parvaresh@itrc.ac.ir — (+98) 915-380-3313 — linkedin.com/in/parvvaresh/ — iran Citizen

EDUCATION

Amirkabir University of Technology (among the top 3 universities in Iran), Tehran, Iran Enrolled: Oct 2020 — Expected: Oct 2025
Bachelor's degree Overall GPA: 3.78
Selected Courses:

- Linear Algebra: (19.56 / 20)
- Basics Programming: (20 / 20)
- Advance Programming: (17.5 / 20)
- Artificial Intelligence: (19.33 / 20)
- Data Base: (20 / 20)
- Probability: (20 / 20)
- Data Structure: (18 / 20)

EXPERIENCE

Rayazaban Tehran, Iran

- **ML Engineer** Mar 2024 - Present
  In the role of an expert in the development and improvement of artificial intelligence models, my experience focuses on creating and enhancing deep learning models to estimate the cultivated area of agricultural products based on satellite images. This project involves various aspects including cleaning satellite data and designing deep learning models for analyzing data sent from satellites. Additionally, I have experience in deploying and running these models on cloud servers at Amirkabir University and am familiar with sending and managing data from different servers to the main servers.

IRAN Telecommunication Research Center Tehran, Iran
ML — NLP engineer Sep 2022 - Mar 2024

- **Lead Product evaluation**
  In our Artificial Intelligence and Security Laboratory, we specialize in evaluating artificial intelligence products, employing various algorithms tailored to each responsible party and assessing product integrity based on specific protocols.
  We utilize diverse checklists covering aspects such as explainability, trustworthiness, interpretability, robustness, and more, for comprehensive measurement. For instance, we developed a systematic approach utilizing eight algorithms to evaluate the performance of Iranian machine translation system, Targuman.
  Our commitment to rigorous evaluation methodologies ensures that AI products meet stringent standards, facilitating their trustworthiness and efficacy in real-world applications.
  • supervisor : Dr.Afshin soozani

may 2023 - Present

- **Data scientist**
  Through web scraping techniques, we extracted close to 100,000 news articles from Iranian news websites, categorized into five labels: sports, politics, social, cultural, and arts.
  Employing robust preprocessing methods, we opted for vectorization of Persian news texts, transitioning from traditional approaches like TF-IDF and bag-of-words to more advanced methodologies such as GloVe and Word2Vec, thus transforming the texts into numerical vectors.
  Subsequently, we utilized various machine learning models including Logistic Regression, K-Nearest Neighbors, Weighted K-Nearest Neighbors, Naive Bayes, Decision Tree, Support Vector Machine (SVM), and Gradient Boosting. Leveraging greedy search techniques, we fine-tuned parameters to optimize model performance. Additionally, we explored deep learning architectures such as Convolutional Neural Networks (CNN) and Long Short-Term Memory (LSTM) models.
  Our work exemplifies a comprehensive approach to text classification in Persian news articles, showcasing proficiency in both traditional and advanced machine learning techniques. Seeking opportunities to apply these methodologies in impactful projects and contribute to the field of natural language processing and text classification.
  • supervisor : Dr.Mohmmad shahram moien

jan 2023 - may 2023

- **Data analyst**
  Experienced in conducting comprehensive data analysis, I spearheaded a project focused on artificial intelligence articles sourced from the Scopus website spanning from 1973 to 2023. Our team meticulously analyzed keyword trends over each year and across various authors, elucidating insights into the evolving landscape of AI research.
  Moreover, we investigated the intricate relationships between authors and their affiliated institutions, correlating these dynamics with the volume of articles published. The culmination of our efforts resulted in a detailed report, offering valuable insights into the trajectory of AI research.
  Utilizing advanced neural network algorithms, we ventured into the realm of predictive analytics, forecasting the future trajectory of article publications in AI research up to the year 2600. Our work not only contributes to the ongoing discourse in this rapidly evolving field but also underscores our proficiency in leveraging cutting-edge methodologies to derive actionable insights.
  • supervisor : Dr.Marjan goodarzi

Sep 2022 - jan 2023

Zarin Pall Tehran, Iran

- **Data Scientist**
  At ZarinPal, we are dedicated to employing advanced machine learning algorithms for the detection of fraudulent cards and transactions.

Jul 2022 - sep 2022

Shoppels Tehran, Iran

- **Data Scientist**
  Engaged in leveraging machine learning algorithms to analyze purchasing and selling patterns of goods across various regions within Tehran. Our focus lies in extracting valuable insights from data, facilitating informed decision-making processes and optimizing business strategies through advanced analytics.

Jan 2022 - Feb 2022

Teaching

CS50xTehran Tehran, Iran
Teaching Assistant Jul 2023 - Sep 2023

- Instructor for Harvard University's Basics of Programming and Artificial Intelligence course, facilitating comprehensive learning experiences and guiding students through fundamental concepts in programming and AI.

University of Tehran Tehran, Iran
Teaching Assistant and Head TA Jan 2023 - Present

- introduction to python -spring 2023
- data base - spring 2023
- head of TA (Introduction to python -fall 2023)
- head of TA (data base - fall 2023)
- head of TA (Introduction to python - spring 2023)

Amirkabir University of Technology - Tehran Polytechnic Tehran, Iran
Teacher Assistant Nov 2022 - Present

- introduction to python -fall 2022
- Data Base - spring 2023
- data mining spring 2023
- Computer Workshop fall 2023
- Data Base spring 2024
- Artificial intelligence spring 2024

Scientific Student Association of Engineering Science Department Tehran, Iran
Instructor Sep 2023 - Present

- The workshop, organized by the Scientific Society of the University of Tehran, offered a comprehensive exploration of the design process for a database from inception to normalization, covering various transformational aspects and implementation strategies. Our project focus centered on the development journey of Snapp Food, wherein we meticulously delved into each phase of the design process, ensuring thorough understanding and proficiency in database design and implementation methodologies..

Research Interests

• Artificial Intelligence • Machine Learning • Deep Learning • Natural Language processes
• Reinforcement Learning • Recommender Systems

PROJECTS

Genetic Clustering Algorithm
Project Link: `https://github.com/parvvaresh/clustering-with-genetic`

- This Python script implements a genetic algorithm for clustering data. The algorithm optimizes the cluster assignments of data points using a genetic approach, aiming to improve the silhouette score. The silhouette score is a measure of how well-defined the clusters are in the data.

evaluate Targoman
Project Link: `https://github.com/parvvaresh/eval-targoman`

- We at the Telecommunication Research Center decided to test and evaluate the Tergoman machine translation system. This evaluation is done by 6 algorithms.

spotify recommendation system
Project Link: `https://github.com/parvvaresh/spotify-recommendation-system`

- Cosine similarity is one of the most widely used and powerful similarity measure in Data Science. It is used in multiple applications such as finding similar documents in NLP, information retrieval, finding similar sequence to a DNA in bioinformatics, detecting plagiarism and may more.

Autocorrect Text using NLP in Python
Project Link: `https://github.com/parvvaresh/Autocorrect`

- Automatic correction is implemented by 2 algorithms eidt distance and jaccard$_similarityandbothcorrectwordsautomaticallywithh$

Face Mask Detection using TensorFlow and OpenCV
Project Link: `https://github.com/parvvaresh/face-mask`

  - using a pre-trained MobileNetV2 model with TensorFlow and OpenCV. It can process live video from a webcam and classify faces as wearing a mask or not wearing a mask.

Knowledge Graph
Project Link: `https://github.com/parvvaresh/Knowledge-Graph`

  - science and it is possible to obtain a general visualization of the data A knowledge graph can be created by using the subject and the object in the sentences and the main verb in the sentence. Note that sentences must be extracted that have exactly one subject and one object.

email Persian spam detection with ML algoritms
Project Link: `https://github.com/parvvaresh/email-spam-detection`

- we use 2 algoritms for word to vec :

  1. tf-idf
  2. freq word
  3. bag of word

  we use 6 algoritms for classifiction:

  1. KNN
  2. Logstic Regression
  3. Decision Tree
  4. Random Forest
  5. Naive Bayes
  6. SVM

  we use hazm for pre process

SKILLS

- **Programming Languages:** Python , My SQL, SQL Server, Git , Github , Linux,R, C, C++.
- **Libraries and Frameworks:** TensorFlow, Scikit-Learn, Numpy, Pandas, Matplotlib, Seoborn, Hazm, NLTK,
- **Environments and Tools:** Linux, Git, Postman
- **Miscellaneous** LATEX