Mohammad Saleh Ebrahimi Shahabadi

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▬ Education

Since **Bachelor of Science in Computer Science**, *Shahid Bahonar University of Kerman, Kerman, Iran*.
2017 CGPA: 3.37/4, Major GPA:3.84/4, *Ranked 3rd in Computer Science Department among 75+ entrants of 2017.*

2014- **Bachelor of Science in Mechanical Engineering**, *Shahid Bahonar University of Kerman, Kerman, Iran*,
2017 **Changed major to Computer Science**.

▬ Research Interests

Machine Learning, Artificial Intelligence, Artificial Neural Networks, Deep Learning, Ensemble Learning, Computer Vision, Data Science, Data Mining, Data Analytics

▬ Publications

2019 **A Novel Hybridization of Self-adaptive Multi-verse Optimizer over K-Means for Data Clustering**,
Hamed Tabrizchi, ***Mohammad Saleh Ebrahimi Shahabadi***, Marjan Kuchaki Rafsanjani.
Proceeding of IEEE at 8th Joint Congress on Fuzzy and Intelligent Systems, Mashhad, Iran, 2020 (IEEE)

A Combination of Clustering-based Under-sampling with Ensemble Approach for Solving Imbalanced Class Problem in Intelligent Systems,
Mohammad Saleh Ebrahimi Shahabadi, Hamed Tabrizchi, Marjan Kuchaki Rafsanjani, B. B. Gupta, Francesco Palmieri.
International Journal of Intelligent Systems (under-review)

▬ Projects

2019- **Algorithmic Approach for Addressing the Imbalanced Class Problem**.
2020 **Objective**: Addressing Imabalace Class Problem in datasets.
Most real world datasets suffer from the problem of imbalanced distribution of classes, it is a major problem specially when the number of data representing the larger class is much greater than the number of data in the smaller class. We've developed an algorithmic level approach for addressing this problem which resulted in the paper:
A Combination of Clustering-based Under-sampling with Ensemble Approach for Solving Imbalanced Class Problem in Intelligent Systems,
Mohammad Saleh Ebrahimi Shahabadi, Hamed Tabrizchi, Marjan Kuchaki Rafsanjani, B. B. Gupta, Francesco Palmieri, International Journal of Intelligent Systems (Under-Review)

2018- **Hybridization of Self-adaptive Multi-verse Optimizer over K-Means**.
2019 **Objective**: Addressing K-Means drawbacks such as slow convergence rate and converging to local optima.
Clustering algorithms are a popular way to find the relationship among a collection of data. K-Means is one of the most popular clustering algorithms, but it suffer from problems such as converging to local optima and requiring the number of clusters in advance. In this work, we have used Self-adaptive Multi-verse Optimizer to solve the clustering as an Optimization Problem. This project resulted in paper:
A Novel Hybridization of Self-adaptive Multi-verse Optimizer over K-Means for Data Clustering,
Hamed Tabrizchi, **Mohammad Saleh Ebrahimi Shahabadi**, Marjan Kuchaki Rafsanjani,
Proceeding of IEEE at 8th Joint Congress on Fuzzy and Intelligent Systems, Mashhad, Iran, 2020

2015- **Smart wristband for the elderly**.
2017 **Objective**: Designing a wristband for the elderly to record vital signs and track location in case of an emergency.
Description: The first series of smart wristbands was designed by a group of active students of the Robotics and Mechatronics Association as a research project under my supervision, passed the design stage and entered the laboratory model construction stage.

Experience

Teaching Experience

Fall 2018   **Advanced Programming Teaching Assistant**, *Shahid Bahonar University*.

Research Experience

Since 2018   **Research Assistant**, *Department of Computer Science, Shahid Bahonar University*,
Description: I was working on Algorithmic level approaches for addressing the Imbalanced dataset problem; work resulted in one under-review paper at International journal of Intelligent Systems.
Also, I have worked on combining the evolutionary algorithms with K-Means to automate the process of finding the optimal number of clusters and choosing the best initial cluster centroids. Work resulted to an accepted paper in the 8th joint congress on Fuzzy and Intelligent systems. **Supervisor:** Dr Marjan Kuchaki Rafsanjani.

University Services

Since 2019   **Data Mining and Machine Learning Group Member**, *Mahani Mathematical Research Center, Shahid Bahonar University*, Attended weekly discussions, gave advice to other members and held a lecture: Clustering-based feature selection (with A. Hassani - 2019).

2019   **Member of the Technical Team, 3rd Saba Programming Contest**, *Shahid Bahonar University*.

2016-2018   **Head of Mechanical Engineering Scientific Student Association**, *Department of Mechanical Engineering, Shahid Bahonar University*.
I was in charge of holding extra-curricular courses and student guidance. During my tenure, the association won the 9th university-wide HAREKAT award. (1st ranked association in the University)

2015-2017   **Editor-in-chief of "Tik" Scientific Journal**, *Shahid Bahonar University*, Honorary student scientific journal at the 7th university-wide HAREKAT competition.

2015-2016   **Robotics and Mechatronics Student Association Member**, *Shahid Bahonar university*.
Worked one various projects and attended in national and international robotic and mechatronic competitions.

Honors and Awards

2020   **Undergraduate Research Excellence Award**, *Department of Mathematics and Computer Science*, Shahid Bahonar University, Awarded distinguished researcher among Computer Science students for research conducted in Machine Learning.

2018   **1st Rank Scientific Association**, Honored as the **President of Mechanical Engineering Student Scientific Association**, the university-wide distinguished association among (80+) scientific associations.

2017   **1st Rank Scientific Association**, *Presented by the **Minister of Science, Research and Technology of Iran***, Honored as a member of the National distinguished association among (9000+) scientific associations in Iran.

1st Rank Scientific Association, *Presented by the **Vice Minister of Science, Research and Technology of Iran***, Honored as a member of the National distinguished association among (9000+) scientific associations in Iran.

1st Rank Scientific Association in the Invention Competition, *Presented by the **Vice Minister of Science, Research and Technology of Iran***, Honored as a member of the National distinguished association among (9000+) scientific associations in Iran.

2016   **1st Rank Scientific Association**, *Presented by the **Vice Chancellor of Shahid Bahonar University***, Honored as a member of Robotics and Mechatronics Student Scientific Association, which **was chosen as the distinguished association among all scientific associations (80+) in Shahid Bahonar University**.

Honorary Student Scientific Journal Award, *Presented by the **Vice Chancellor of Shahid Bahonar University***, Honored as a member of Robotics and Mechatronics Student Scientific Association, **honorary student scientific journal award winner among all scientific associations (80+) in Shahid Bahonar University**.

1ˢᵗ Rank Scientific Association in Creativity, *Presented by the **Vice Chancellor of Shahid Bahonar University***, Honored as a member of Robotics and Mechatronics Student Scientific Association, which **was chosen as the distinguished association in the creative association competition among all scientific associations (80+) in Shahid Bahonar University**.

1ˢᵗ Rank Scientific Association in Innovation, *Presented by the **Vice Chancellor of Shahid Bahonar University***, Honored as a member of Robotics and Mechatronics Student Scientific Association, which **was chosen as the distinguished association in the innovative association competition among all scientific associations (80+) in Shahid Bahonar University**.

1ˢᵗ Rank Scientific Association in Entrepreneurship, *Presented by the **Vice Chancellor of Shahid Bahonar University***, Honored as a member of Robotics and Mechatronics Student Scientific Association, which **was chosen as the distinguished association in the innovative association competition among all scientific associations (80+) in Shahid Bahonar University**.

Technical Skills

Programming, Python, C/C++, MATLAB.

Scripting, LaTeX, HTML, CSS.

Machine Learning, PyTorch, TensorFlow, Keras, Scikit-Learn.

Data Management, Tableau, Pandas, SQL Server.

Operating Systems, Linux, Windows.

Certificates (click to view the certificate)

Neural Networks and Deep Learning | deeplearning.ai

Improving Deep Neural Networks | deeplearning.ai

Structuring Machine Learning Projects | deeplearning.ai

Convolutional Neural Networks | deeplearning.ai

Data Science Math Skills | Duke University

How to Write and Publish a Scientific Paper (Project-centered Course) | École Polytechnique

Intro. to TensorFlow for AI, ML, and Deep Learning | deeplearning.ai

Machine Learning with Python | IBM

Introduction to Data Analytics | IBM

Python for Data Science and AI | IBM

Databases and SQL for Data Science | IBM

Data Analysis with Python | IBM

Data Visualization with Python | IBM

Languages

English Professional working proficiency

Persian Native speaker

References

Marjan Kuchaki Rafsanjani
Associate professor at department of Computer Science, Shahid Bahonar University of Kerman.
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Arsham Borumand Saeid
Professor at the department of Pure Mathematics, Shahid Bahonar University of Kerman.
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Ali Mohammad Shafei
Associate professor at department of Mechanical Engineering, Shahid Bahonar University of Kerman.
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