

Saeed Rafieyan

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Date Academic Background

- 2018-2022 Master of Science in Chemical Engineering – Biomedical Engineering
Faculty of Chemical Engineering, Tarbiat Modares University
Thesis: Predicting cell behavior on cardiac tissue engineering scaffolds using machine learning algorithms
GPA: 16.86 / 20
- 2013 - 2017 Bachelor of Science in Chemical Engineering
Faculty of Chemical Engineering, Tafresh University
Thesis: Simulation of the biodiesel production process with Aspen HYSYS
GPA: 15.14 / 20

Research Interests

Applications of AI in Medical and Healthcare, Protein Design Using AI, Drug Discovery Using AI, Bioinformatics, Personalized Medicine, Tissue Engineering

Publications

- 2024 **Rafieyan, S.**, Ansari, E., & Vasheghani-Farahani, E. (2024). A practical machine learning approach for predicting the quality of 3D (bio)printed scaffolds. *Biofabrication*, 16(4), 045014. <https://doi.org/10.1088/1758-5090/ad6374>
- 2024 **Rafieyan, S.**, Boojari, M. A., Setayeshnia, A., Fakhroleslam, M., Sánchez-Ramírez, E., Bay, M. S., & Segovia-Hernández, J. G. (2024). Acetone-butanol-ethanol fermentation products recovery: Challenges and opportunities. *Chemical Engineering Research and Design*, 205, 640-664. <https://doi.org/https://doi.org/10.1016/j.cherd.2024.04.021>
- 2023 **Rafieyan, S.**, Vasheghani-Farahani, E., Baheiraei, N., & Keshavarz, H. (2023). MLATE: Machine learning for predicting cell behavior on cardiac tissue engineering scaffolds. *Computers in Biology and Medicine*, 158, 106804. <https://doi.org/https://doi.org/10.1016/j.compbiomed.2023.106804>
- 2022 Fan, J., Abedi-Dorcheh, K., Sadat Vaziri, A., Kazemi-Aghdam, F., **Rafieyan, S.**, Sohrabinejad, M., Ghorbani, M., Rastegar Adib, F., Ghasemi, Z., Klavins, K., & Jahed, V. (2022). A Review of Recent Advances in Natural Polymer-Based Scaffolds for Musculoskeletal Tissue Engineering. *Polymers*, 14(10), 2097. <https://www.mdpi.com/2073-4360/14/10/2097>

Skills

Computational

- Supervised and Unsupervised Machine Learning Algorithms
- Deep Learning Algorithms
- Natural Language Processing

- Visualization libraries such as Matplotlib, Plotly, etc.
- Pytorch Framework
- Pandas, Numpy and Sklearn
- Database Development

Experimental

- Cell Culture
- MTT Assay
- Decellularization Protocols
- Hydrogel Preparation
- Scaffold Fabrication
- 3D Printing
- Counting, Expanding, Freezing and Thawing of Cells
- Freeze-Drying

Academic Experiences

Sep. 2023 - Present	Research Assistant in Dr. Fakhroleslam's research group, working as a Data Scientist.
Feb. 2024 - Present	Actively contributing to developing a domain-based large language model (LLM) using natural language processing (NLP) in the field of tissue engineering under the supervision of Prof. Ebrahim Vasheghani-Farahani.
June 2024 - Present	Collaborating on MLATE V3, the first multi-tissue predictive ML tool for 3D printed tissue engineering scaffolds under the supervision of Prof. Ebrahim Vasheghani-Farahani.

Licenses and Certificates

Neural Networks and Deep Learning	Coursera	[Link]
Data Visualization using Plotly	Coursera	[Link]
Deep Learning with PyTorch: Image Segmentation	Coursera	[Link]
Deep Learning with PyTorch: Object Localization	Coursera	[Link]
Introduction to Genomic Technologies	Coursera	[Link]
Python for Genomic Data Science	Coursera	[Link]

Languages

English: TOEFL 90/120 (R:23, L:25, S:21, W:21), Registered to retake the test on Jan 18th 2025.

Duolingo: 110

Industrial Experience

2023-Present	Data Scientist, HiWEB Customer Segmentation, Churn Prediction, and Customer Behavior Prediction, QA and QC Automation
2021	Data Scientist, YecomSoft Persian NLP, Persian Text-to-Speech
2020	Django Web Developer Intern, MAPSA

References

Prof. Ebrahim Vasheghani-Farahani
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Dr. Ahmad Bayat
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