# Danial Ahangarani

**Master's graduate - Machine Learning**

Sharif University of Technology
Department of Computer Engineering

Homepage 🔗 / Github 🔗
*daniahangaranii@gmail.com*

## Summary

**I am a machine learning researcher focusing on developing artificial intelligence to solve problems in science.**

## EDUCATION

- Master's degree in Computer Engineering, Sharif University of Technology. (GPA: 3.87)
- Bachelor's degree in Computer Science (Minor: Cinema-Directing), Shahid Beheshti University and Applied Science & Tech University.

## HONORS & AWARDS

- 2021 Ranked 56 among more than 30,000 participants in the nationwide university entrance exam for Computer Engineering.
- 2021 Ranked 45 among over 5,000 participants in the nationwide university entrance exam for Computer Science.

## POSITIONS

### *Research Assistant*

2021 - 2024: Research Assistant at the ***RIML*** 🔗
During my master's degree, I was involved in a collaborative research project between the Robust/Interpretable ML Lab and the Organic Chemistry Lab. The project focused on applying deep learning and natural language processing techniques for the prediction of drug-target binding affinity. I contributed to the development of novel methodologies to bridge the gap between computational and experimental drug discovery approaches. I was actively engaged in interdisciplinary efforts to advance the field of pharmaceutical science through cutting-edge technologies.

### *Teaching Assistant*

- Spring 2023: Data Structures and Algorithms at the Sharif University of Technology.
- Fall 2023: Intelligent Processing of Biomedical Images at Sharif University of Technology.

## PUBLICATIONS

Ahangarani, Danial, Mohammad Shirazi, and Navid Ashraf. "Investigating Deep Neural Network Architecture and Feature Extraction Designs for Sensor-based Human Activity Recognition." *2023 7th International Conference on Internet of Things and Applications (IoT)*. IEEE, 2023. **(GitHub)**

## PROJECTS

*Human Activity Recognition*

- Investigation Deep Neural Network in Human Activity Recognition (**GitHub**)

*Machine Learning*

- Breast Cancer Prediction (**GitHub**)
- Estimating obesity levels based on eating habits and physical conditions of an individual (**GitHub**)
- Spectral Clustering (**GitHub**)
- Liver Disease Classification (**GitHub**)

*Deep Learning*

- Classification for Brain Cancer MRI Images (**GitHub**)
- CNN-based model for a multi-class classification task, brain abnormality classification (**GitHub**)
- Image Captioning (**GitHub**)
- Image Semantic Segmentation (**GitHub**)
- Medical Image Registration Using Voxelmorph (**GitHub**)
- Multilayer Perceptron for DOROTHEA (a drug discovery dataset) (**GitHub**)
- Single-Cell RNA Sequencing Analysis (**GitHub**)
- Generating MNIST digits with variational autoencoder (**GitHub**)
- Classification and Interpretation for Xray Images (**GitHub**)

*Signal Processing*

- Exploring methods for sharpening images (**GitHub**)

*Artificial Intelligence*

- **Connect Four** games (**GitHub**)
- Tackling the knapsack problem with a genetic algorithm (**GitHub**)
- N-gram Language Model (**GitHub**)
- Naive Bayes Classifier (**GitHub**)

*Structural Bioinformatics*

- Procedures to work with protein pdb file in tcl language (**GitHub**)

## CERTIFICATES

- Machine Learning (**Certificate**)
    - Supervised Machine Learning: Regression and Classification (**Certificate**)
    - Advanced Learning Algorithms (**Certificate**)
    - Unsupervised Learning, Recommenders, Reinforcement Learning (**Certificate**)
- Advanced Python programming and object-oriented thinking course (**Certificate**)

## TEST TAKEN

TOEFL IBT, 6 July, 2024

Total Score: 102 (Reading: 28, Listening 28, Speaking 22, Writing 24)

## SKILLS

- Python
    - TensorFlow, Keras, PyTorch, and Hugging Face
    - Numpy and Pandas
    - Scikit-learn, SciPy, OpenCV, NLTK
    - Matplotlib, Plotly

- Intermediate R, Java, and C Knowledge
- MySQL
- Git/ GitHub
- Probability and Statistics
- Linux, Windows, OS X
- Latex and Microsoft Office
- Academic Writing