Zahra Ahmadi

+989128494351 xahra.ahmadi78@gmail.com linkedin.com/in/zahra-ahmadii github.com/x1ew

EDUCATION

Guilan University **Sep. 2019 – Aug 2023**

B.Sc in Computer Engineering *Rasht, Iran*

- GPA: 3.66/4

KEY SKILLS

Programming Languages: Python, Java, C++, C, VHDL, MySQL
ML Framework: Pytorch, TensorFlow, Keras, Scikit-learn
Data Science Tools: Numpy, Pandas, Matplotlib, Seaborn
Web development: HTML, CSS
Extra tools: Git
Technical Expertise: Machine Learning, Deep Learning, Natural Language Processing, Data Structures, Algorithms

SELECTED PROJECTS

Normal-Cyst-Tumor and Stone | *[repo]* **PyTorch**

- The dataset comprises CT images of the kidneys, covering four distinct categories: tumors, cysts, normal, and stones. I've implemented basic Convolutional Neural Networks (CNNs), ResNet, and VGG architectures for image classification on these images.

Amazon reviews | *[repo]* **PyTorch**

- A machine learning model was developed and trained on Amazon Reviews to analyze user sentiment. The dataset was extensively preprocessed, involving techniques such as tokenization, stopwords removal, lemmatization, stemming, tag and emoji removal, and normalization.
- The sentiment analysis task on Amazon reviews was conducted using Logistic Regression. The repository provides resources and code for a variety of sentiment classification models, including Embedding Models, BERT, and Simple Neural Networks.

Multi class Weather | *[repo]* **PyTorch**

- I worked with the Multi-class Weather Dataset consisting of Rain, Shine, Sunrise, and Cloudy categories. The project focused on computer vision, image processing, and deep neural networks using models like ResNet and Inception with k-fold cross-validation for evaluation.

An odd Music Generator | *[repo]* **PyTorch**

- This project aims to explore Autoencoders Denoising, data augmentation methods, audio file processing, string-to-string models (Seq2seq), and intelligent systems.
- The project consists of four key components: Denoising, Note Recognition, Note Prediction, and Noise Maker.

Analyzing human metaphase II oocyte images | *[repo]* **PyTorch**

- This project serves as an example of semantic segmentation, featuring the implementation of a robust deep learning-based multiclass semantic segmentation method. It is specifically designed for analyzing human metaphase II oocyte images, as outlined in a paper

NLP Subject Similarity | *[repo]* **PyTorch/TensorFlow**

- The project includes sentence pairs with sentence1 and sentence2, scored for textual similarity, amenable to regression or classification using neural networks.
- The project utilizes neural networks for similarity analysis, involving Data Labeling, Multi-label RNN Classification, Text Preprocessing, and Classification Networks.

Students Academic Performance | *[repo]* **Python/TensorFlow**

- The project aimed to utilize a custom neural network structure created from scratch (Neural Networks from Scratch) for predicting student acceptance or rejection during an academic semester based on their characteristics. Furthermore, TensorFlow was employed to achieve the same objective.

Trie | *[repo]* **Java**

- For my university's Data Structure course project, I developed a student management system. I utilized a HashTable to store student data indexed by their IDs and implemented a Trie tree to store HashTable's keys.

four in row | *[repo]* **Python**

- The game is set in single-player mode, with an AI Agent using the Negamax algorithm. This algorithm calculates the minimum value of child nodes in one step and subsequently selects the maximum value among these minimum values as the value for the parent node in the next step.

RESEARCH PAPERS

Sperm Analysis **January 2023 - Present**

- Zahra Ahmadi, Yazdan Haghi, Seyed Abolghasem Mirroshandel, Yasaman Boreshban
- In this research project, we employed Meta-learning to improve the accuracy of sperm abnormality detection.

TEACHING ASSISTANT EXPERIENCE

Artificial Intelligence | *University of Guilan* **Fall 2022**

- Instructor: Dr. Y. Boreshban
- Head TA
- In my role as a Teaching Assistant, I was responsible for creating assignments, guiding students through projects, and producing informative videos about neural networks, all with the aim of fostering optimal learning experiences and facilitating students' comprehension.

Algorithm Design | *University of Guilan* **Fall 2021**

- Instructor: Dr. A. Khozaei
- Head TA
- I planned and assessed programming assignments for students.

Data Structure | *University of Guilan* **Fall 2021**

- Instructor: Dr. F. Feyzi
- Head TA
- I designed and assessed assignments for students so they were able to implement complex data structures and algorithms (priority queue, hash table, linked list, etc.).

Discrete Mathematics | *University of Guilan* **Fall 2020 / Fall 2021**

- Instructor : Dr. S. M. Shekarian
- Head TA
- I designed weekly assignments that assisted students in solving problems. I assessed their assignments, providing valuable feedback to support their academic development.

Digital Circuits | *University of Guilan* **Fall 2021**

- Instructor: Dr. M. Aminian
- Head TA
- It was my responsibility to develop projects and assess assignments.

Computer Architecture | *University of Guilan* **Fall 2021**

- Instructor: Dr. H. Ahmadifar
- The only responsibility I had was to assess the students' assignments.

Computer Aided Design | *University of Guilan* **Fall 2020 / Fall 2021**

- Instructor: Dr. M. Aminian
- Head TA
- I evaluated weekly assignments carefully and designed the final project working with the board. Moreover, I resolved the student's problem.

Microelectronic Circuits | *University of Guilan* **Spring 2023**

- Instructor: Dr. M. Aminian
- Providing solutions to students' problems and assessing assignments were my responsibilities.

AWARDS AND ACHIEVEMENT

Tuition Waiver, B.Sc, University of Guilan **August 2019**

CERTIFICATIONS

Generative Adversarial Networks (GANs) Specialization **2023**
- Build Basic Generative Adversarial Networks (GANs) [certificate]

Deep Learning Specialization | *Coursera, by Andrew Ng* | *[certificate]* **2023**
- Neural Networks and Deep Learning [certificate]
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization, and Optimization [certificate]
- Structuring Machine Learning Projects [certificate]
- Convolutional Neural Networks [certificate]
- Sequence Models [certificate]

Machine learning | *Coursera, by Andrew Ng* | *[certificate]* **2022**

Introduction to Data Science in Python | *[certificate]* **2021**

DeepLearning.AI TensorFlow Developer Professional Certificate | *Coursera, by Laurence Moroney* **2022**
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning [certificate]
- Convolutional Neural Networks in TensorFlow [certificate]

Algorithms Specialization **2021**
- Divide and Conquer, Sorting and Searching, and Randomized Algorithms[certificate]
- Graph Search, Shortest Paths, and Data Structures [certificate]

Web Design for Everybody **2022**
- Introduction to HTML5 [certificate]

INTERESTS

- Deep Learning
- Machine Learning
- Computer vision
- Natural language processing
- Data science
- Algorithms
- Problem-solving
- Researching

LANGUAGES

- **Persian** : Native
- **English** : Fluent

REFERENCES

Dr. Seyed Abolghasem Mirroshandel | *University of Guilan* **Rasht, Iran**
- Associate Professor of Computer Engineering
- Email: mirroshandel@guilan.ac.ir
- Google scholar

Dr. Mahdi Aminian | *University of Guilan* **Rasht, Iran**
- Assistant Professor of Computer Engineering
- Email: mahdi.aminian@guilan.ac.ir
- Google scholar

Dr. Farid Feyzi | *University of Guilan* **Rasht, Iran**
- Assistant Professor of Computer Engineering
- Email: feizi@guilan.ac.ir
- Google scholar