BENYAMIN RAMEZANI

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Education

B.Sc. in Computer Engineering — Sep 2019 – Feb 2024
University of Guilan
GPA (Final year): 3.82/4
CGPA: 3.13/4

Research Interests

- Deep Learning
- NLP
- Transformers & LLM
- Machine Learning
- Computer Vision
- Reinforcement Learning

Research Experiences

- **Text classification** — Nov 2023 - present
  Benyamin Ramezani, Arash yousefi, Seyed Abolghasem Mirroshandel
- In this research Project, we employed **Contrastive Learning** to improve the accuracy of the pre-trained **BERT** model on text datasets such as **CR**, **SST2**, **IMDB**, etc.

Skills

- **Programming Languages:** Python, Java, C++, Kotlin, Java Script, Php
- **Data Science Tools:** Matplotlib, NumPy, Pandas
- **Web Development:** HTML, CSS, Java Script
- **Machine Learning Frameworks:** PyTorch, Tensorflow, Keras, Huggingface, Gym
- **Natural Language Processing:** NLTK, spaCy, Transformers, BERT, RNN, LSTM, LLM
- **Non-Technical Expertise:** Problem Solving, Teaching, Self-Learning
- **Extra tools/Others:** Git, Latex, Trello, Figma, MySQL, Android development, Linux(Debian-based)

Selected Projects (More Projects on GitHub)

- **Fine-Tuning BERT Model for sentiment Analysis on CR dataset** [GitHub Repository]
  - Utilized **PyTorch** for implementation, incorporating **k-fold cross-validation**.
  - Leveraged the powerful contextual understanding of **BERT** for sentiment classification.
  - Achieved an average accuracy of **90.29%** and F1-Score of **92.55%** after 10-fold cross-validation.

- **Face Recognition using Siamese Neural Networks** [GitHub Repository]
  - Implemented One-shot Siamese Neural Network for face recognition **paper** using **TensorFlow**.
  - Libraries such as **OpenCV**, **NumPy** and **Matplotlib** were used.
  - Obtained training data from a webcam, around 800 images. Designed the Model to receive two input images and classify them using **sigmoid activation**.

- **Traffic Sign Image Classification** [GitHub Repository]
  - In this project **Fully Connected Network** were implemented using **ReLU** and **Softmax activation** functions.
  - Libraries such as **NumPy**, **pandas** and **Matplotlib** were used.

- **Drink Water Reminder** [GitHub Repository]
  - In this project I developed an **Android app** in **Java** that helps people track their water intake based on their weight and workout time.
  - Through this project **OOP** concept were used to implement classes.
  - Utilized **XML**, for defining layouts and UI elements.
  - Employed **Fragments** for modularizing UI components.

Honors & Awards

- Tuition Waiver, B.Sc., University of Guilan
- Ranked as Top 0.5% among the 164,278 participants in National Exam for Undergraduate State Universities

Certificates and Relevant Courses

- **Deep Multi-Task and Meta Learning** Stanford University CS330 — Instructor: Chelsea Finn, Dec - 2023
- **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization** - Coursera — Instructor: Andrew Ng, Aug - 2023 [Certificate]
- **Neural Network and Deep Learning** - Coursera — Instructor: Andrew Ng, Jul - 2023 [Certificate]
- **Supervised Machine Learning: Regression and Classification** - Coursera — Instructor: Andrew Ng, Feb - 2023 [Certificate]
- **Data Structures and Algorithms Specialization** Coursera, University of California San Diego — Instructor: Pavel Pevzner, Aug - 2022 [Certificate]

Selected Courses

- Fundamentals of Speech and Natural Language Processing — GPA: 4/4
- Artificial Intelligence and Expert Systems — GPA: 4/4
- Algorithms Design — GPA: 3/4
- Principles of Database Design — GPA: 4/4
- Research & Presentation Method — GPA: 4/4
- Microprocessors and Assembly Language — GPA: 4/4
- Internet Engineering — GPA: 4/4

- Fundamentals of Compiler Design — GPA: 4/4
- Electronic Circuits — GPA: 4/4
- Computer Aided Digital System Design — GPA: 4/4

Teaching Assistant Experiences

- **Microprocessors and Assembly Language** *(University of Guilan – Spring 2023)*
  Instructor: Dr. H. Ahmadifar
  I was responsible for the assessment of students' assignments and projects
- **Microprocessors and Assembly Language** *(University of Guilan – Fall 2022)*
  Instructor: Dr. H. Ahmadifar
  I was responsible for the assessment of students' assignments and projects
- **Advanced Programming** *(University of Guilan – Fall 2021)*
  Instructor: Dr. A. Khozaei
  I was responsible for assessment of students' assignments and projects, preparing assignments and Final Project, being in touch with students in order to answer their questions

References

Dr. Seyed Abolghasem Mirroshandel (thesis supervisor) — University of Guilan
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University of Guilan, Rasht, Iran

Dr. Mahdi Aminian — University of Guilan
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