

Aeirya Mohammadi

Curriculum Vitae

✉ aeiryam@gmail.com

🌐 [aeiryam.github.io](https://github.com/aeiryam)

Research Interests

- Languages NLP for Low-Resource Languages, Computational and Corpus Linguistics, Language Variety
- Social Human-Centered Computing
- Other Natural Language Understanding & Reasoning, Programming Languages

Education

- Since 2023 **M.Sc. in Artificial Intelligence**, *Amirkabir University of Technology (AUT)*, Iran
Thesis: Information Extraction from Text using Neural Networks and Large Language Models
- 2018-2023 **B.Sc. in Computer Science**, *Sharif University of Technology (SUT)*, Iran
 - CGPA 17.05/20 (3.68/4)

Selected Projects

Language Technology Course Projects

2023 **Natural Language Understanding**

- Fine-tuning BERT for classification
- Sequence-to-sequence modeling using RNN encoder-decoder with attention

2023 **Information Retrieval**

Recommendation systems and retrieval using traditional, language-model-based & neural methods.

2022 **Natural Language Processing**

- Developed NLP pipeline tools for Gilaki, a very low-resource Iranian language.
- Compared syntax of Sorani Kurdish and Gilaki words after crawling Wikipedia.

Research

- 2021-2022 **Research in Systems Biology**, *Sharif Optimization and Applications Laboratory*, Dr. Tefagh
Worked on finding minimal sets of essential subnetworks for a metabolic network, using Julia language.

- 2021-2022 **Analysis of Blockchain Consensus Protocols**, *Algorithmic Game Theory Course*, Dr. Tefagh

- Researched on Byzantine fault-tolerant consensus protocols in Blockchain.
- Implemented a multi-agent game theory framework and simulated two games.

Other Selected

2023 **WikiNest**, *Personal Open-Source Hobby Project*

Website with semantic and TF-IDF search

2023 **Application & Compiler Development**, *Part-time University Work Project*

- Designed a programming language for algebraic modeling.
- Developed a latex-to-AML transpiler, for mathematical optimization problems.
- Developed a web app using REST API.

2022 **Big Data Engineering**, *Customer Data Platform & Mini Projects*

- Designed a robust system with lambda architecture in a team of 3 people.
- Implemented the TF-IDF algorithm using the map-reduce framework and did the same with Scala.
- Crawled the web and did other tasks using the shell.

2020 **Image Processing**

Implemented image processing algorithms and used techniques such as image morphing, texture synthesis, blending, image manipulation, Fourier transform, k-means, and mean-shift.

Note Some project codes are available on my **GitHub**

Programming Skills

Proficient	Python, Java, C#, C++, MIPS assembly
Familiar	Julia, Scala, C, Z Shell, SQL, MATLAB, JS, \LaTeX
DataScience	{PyTorch, Scikit-learn}, {OpenCV}, {NumPy, Pyplot}, {Kafka, Cassandra, Docker}
Other	{Unity3D}, {Flask}

Selected Courses

Ongoing Natural Language Processing, Speech Processing, Deep Learning

Teaching Assistant

2023 Advanced Programming, Machine Learning, Computer Networks

2022 Computer Networks, Operating Systems, Advanced Programming, Princ. of Computer Systems

2021, 2020 Principles of Computer Systems, Fundamentals of Programming

- Tasks
- *Managed TA teams*
 - *Held coding and troubleshooting sessions and workshops and gave lectures*
 - *Designed and evaluated assignments and projects*
 - *Developed auto-checkers*
 - *Prepared lecture slides*

Voluntary Activities

2023 **Instructor**, *Neuromatch Workshop*, *Connected Neuroscience Group*, University of Tehran

Covered the first week of the Neuromatch course. It was an introduction to Python, plotting, linear algebra, probability, and more.

2021 **Presenter**, *Minimal Cut Sets*, *Systems Biology Journal Club*, SUT

Attended and presented weekly seminars in groups. Article: Minimal cut sets in biochemical reaction networks (Klamt).

Attended Workshops and Online Courses

Expected **Deep Learning Course**, *Neuromatch Academy*, *Advanced Summer School (2024)*, 3 Weeks

2022 **NLP Workshop**, *Loop Academy*, Beginner - 12 hours

Project: Sentiment analysis on real-life Digikala comments.

Languages

Native Persian

Proficient English

TOEFL IBT 101

Beginner Japanese, Arabic, Gilaki. French

Can understand and make simple sentences

Very Basic **German, Turkish, Norwegian, Chinese, Spanish, Esperanto, Kurdish, Ukrainian, more**

I like studying language structures a lot. Nothing is more fascinating than finding out how similar and yet different they are and how they trace back to the human mind, history, and culture.

More

Other Interest Fields & Hobbies

Language Learning, Chemistry, Cognitive Science,
Basketball, Yoga, Swimming, Musical Instruments, Chess, Board & Video games, Cooking

References

Prof. Mojtaba Tefagh

Assistant Professor

Department of Mathematical Sciences, Sharif University of Technology

✉ mtefagh@sharif.edu

☎ +98 21 6616 5617

<https://sharif.ir/~mtefagh/>

Prof. Laleh Arshadi

Lecturer Professor

Department of Computer Engineering, Sharif University of Technology

✉ laleh.arshadi@sharif.edu

Prof. Hadi Foroughmand

Assistant Professor

Department of Mathematical Sciences, Sharif University of Technology

✉ foroughmand@sharif.edu

☎ +98 21 6616 6054

<https://foroughmand.ir/>