

Soroush Esfahanian

✉ Soroush.Esfahanian83@gmail.com | 📄 Soroushesfn | 🌐 Soroushesfn | 🎓 Soroush Esfahanian

Summary

Highly passionate Computer Engineering student with a strong foundation in Artificial Intelligence and NLP research work and application, and a recently developed passion for evaluating the cognitive abilities of Large Language Models. Demonstrated the ability to apply innovative problem-solving skills while collaborating on various academic and research projects, and now seeking opportunities that provide forward steps towards my new research interests, followed by more contributions and learning.

Education

School of Electrical and Computer Engineering, University of Tehran

Tehran, Iran

B.Sc. in Computer Engineering

Oct 2022 - Current

- GPA: **19.17/20**
- Former Member of the University of Tehran **ACM** Chapter
- Managing Editor of **Jaryan Quarterly Journal**, belonging to University of Tehran IEEE Chapter
- Member of the University of Tehran Music Ensemble
- **Courses:** Natural Language Processing, Artificial Intelligence, Machine Learning, Data Science, Advanced Programming, Discrete Mathematics, Algorithm Design, Engineering Probability and Statistics, Formal Languages and Automata Theory, Compiler Design, Operating Systems, etc.

Research Experience

Researcher at Large Language Models Lab, Tehran Institute for Advanced Studies

Tehran, Iran

Instructors: **Dr.Mohammad Taher Pilehvar**, **Dr.Yadollah Yaghoobzadeh**

Jun 2025 - Current

- Actively conducting a research on framing and benchmarking Social Intelligence in LLMs using large-scale social media data, where we are developing well-crafted evaluation frameworks and experimental methods that enable us to establish more rigorous assessments of social reasoning in LLMs.
- **Technical Skills:** Prompt Engineering, LLM Prompting, Working with LLM APIs, Python NumPy, Matplotlib, Pandas, Scikit-learn, C++, Ubuntu Linux, Linux tools, Git.
- **Soft Skills:** Teamwork, Proficient team management, Strong Communication, Presentation skills.

Researcher at Human and Robot Interaction Lab, University of Tehran

Tehran, Iran

Instructor: **Dr.Mehdi Tale Masouleh**

Jun 2024 - Dec 2024

- Conducted research on sound source localization in a 3D multi-surface environment, proposing two novel, learning-based approaches for enhancing the localization performance of the baseline method.
- Employed various learning-based models, including multi-branch deep neural networks and basic machine learning models.
- Boosted the localization accuracy by 17% and significantly reduced the computational time by 97% using efficient classification techniques.
- The paper has been accepted to **ICRoM 2024**. Project material can be accessed [here](#).
- **Technical Skills:** Signal Processing with Python, Keras, NumPy, Matplotlib, Pandas, Scikit-learn, C++, Ubuntu Linux, Linux tools, Git.
- **Soft Skills:** Teamwork, Proficient team management, Strong Communication, Presentation skills.

Selected Coursework

School of Electrical and Computer Engineering

Tehran, Iran

University of Tehran

Sep 2022 - Present

- **Artificial Intelligence:** 19.50/20.00
- **Advanced Programming:** 20.00/20.00
- **Database:** 19.1/20.00
- **Software Engineering:** 20.00/20.00
- **Algorithm Design:** 20.00/20.00
- **Data Structures and Algorithms:** 20.00/20.00
- **Programming Languages and Compilers:** 19.50/20.00
- **Formal Languages and Automata Theory:** 20.00/20.00
- **Engineering Probability and Statistics:** 20.00/20.00

Publications

CONFERENCE PROCEEDINGS

Sound Source Localization in a 3D Multi-Surface Environment Using Learning-Based Methods

Soroush Esfahanian, Keyhan Rayati, Mehdi Tale Masouleh

2024 12th RSI International Conference on Robotics and Mechatronics (ICRoM), 2024

Technical Projects

YouTube Videos Category Detection

Tehran, Iran

University of Tehran

Sep Jan 2025 - Jul 2025

- Performed sophisticated feature engineering steps on US and Canada's Youtube videos dataset in order to obtain the best features for the category detection task.
- Employed a vast spectrum of models, from simple ML models to different LLM prompting approaches, in order to compare the performance of each.
- Designed a Multi-Branch MLP model alongside the other models for the deepest feature learning.
- Designed a Fully-Automated End-to-End pipeline for the entire procedure of feature engineering, preprocessing and model training and evaluation.
- Obtained an accuracy of 78.91 and Precision of 78.98 on the best-performing model.
- Project material available [here](#).
- **Technical Skills:** Prompt Engineering, Keras, NumPy, Matplotlib, Pandas, Scikit-learn, Linux tools, Git.
- **Soft Skills:** Teamwork, Proficient team management, Strong Communication, Presentation skills.

Natural Language Processing Projects

Tehran, Iran

University of Tehran

Sep Jan 2025 - Current

- Executed various projects and assignments on Natural Language Processing, as mentioned below.
- Implemented Word2Vec architectures based on CBOW and Skipgram models, in order to be used in downstream text classification tasks.
- Implemented Various N-gram models.
- Practically used Transformer-based architectures for downstream tasks.
- Projects' materials can be found [here](#).
- **Technical Skills:** Gensim, FastText, Prompt Engineering, Torch, NumPy, Matplotlib, Pandas, Scikit-learn, Linux tools, Git.

Teaching Experience

Teaching Assistant, Operating Systems

University of Tehran

Instructor: **Dr. Mehdi Kargahi**

Fall 2025 - Current

- Assisted in the design and grading of the second homework and assignment of the course.

Teaching Assistant, Programming Languages and Compilers

University of Tehran

Instructor: **Dr. Fatemeh Ghasemi**

Fall 2025 - Current

- Assisted in providing course material, including designing the main grammar utilized throughout the course and project grading.

Teaching Assistant, Formal Languages and Automata Theory

University of Tehran

Instructor: **Dr. Hossein Hojat**

Fall 2024 - Summer 2024

- Assisted in course instruction, including designing homework, grading.

Teaching Assistant, Engineering Probability and Statistics

University of Tehran

Instructor: **Dr. Mostafa Tavassolipour**

Fall 2024 - Winter 2024

- Assisted in providing course material, including designing computer assignments, grading, etc.

Honors

2022 **Rank 75**, Iran National University Entrance Exam

Iran

2022-25 **Rank 3**, School of Computer Engineering, University of Tehran

Tehran, Iran

2025 **Rank 16**, Iran National Student Olympiad in Computer Science

Iran

Skills

Programming	Python (Torch, Keras, NumPy, Pandas, SciPy, Scikit-learn, Tensorflow, Matplotlib, etc.), Bash, Java, C/C++, SQL, R(ggplot2), Docker, Kubernetes, CSS, HTML, Verilog, Vivado, Quartus, Gensim
Miscellaneous	Linux, Shell, \LaTeX (Overleaf/Notebook Markdown), Microsoft Office, Git.
Extracurricular	Professional Instrumentalist of Percussion Instruments.
Soft Skills	Proficient team management Strong communication skills, Advanced English Speaking Ability, Effective Team Collaboration

Languages

English Advanced Professional proficiency

Persian Native proficiency

French Elementary proficiency