# Sepehr Harfi

Email: sepehr.harfi@gmail.com Personal Webpage: sepharfi.github.io GitHub: github.com/sepharfi Location: Tehran, Iran

## **EDUCATION**

Sharif University of TechnologyTehranBachelor of Computer Engineering, GPA: 18.84/20.002020-Current

Allameh Helli 1 School

Diploma in Mathematics and Physics, GPA: 19.11/20.00

Tehran
2014–2020

## Honors and Awards

Top 0.005 Nationwide University Entrance Exams Mathematics and Physics
 Bronze Medal the National Astronomy and Astrophysics Olympiad
 2020

# RESEARCH EXPERIENCE

#### Research Assistant

Sharif University of Technology, Professor Hossein Sameti

- Skills: Interpretability, Transformers, Speech Recognition

#### Research Assistant

Sharif University of Technology, Professor Mahdieh Soleymani Baghshah

June 2024 - Present

August 2024 - Present

- Skills: Transformers, Music Generation, Large Language Models

#### Research Assistant

University of Zurich, Professor Bjoern Menze

March 2024 - June 2024 - Paused

- Skills: Biomedical Image Analysis, Computer Vision, Deep Learning

## Research Assistant

Wellcome Sanger Institute, Dr. Mo Lotfollahi

June 2023 - October 2023

- Skills: Bioinformatics, Deep Learning, PyTorch

#### Research Interests

**Biomedical Informatics** 

Biomedical Image Analysis

Trustworthy Machine Learning

Music Generation

#### Publications

- Self-Supervised Classification of Persian Musical Instruments Using Polyphonic Data Augmentation -Submitted to IEEE AIMG 2024
  - In this project, we present a dataset for Persian instrument classification along with a novel polyphonic data augmentation technique which results in significant improvement of Persian instrument classification.

- Towards Persian Music Generation In Progress
  - We are building a dataset of Persian music and caption pairs and also utilizing this dataset to generate music in Persian style.
- Accent-Invariant Automatic Speech Recognition via Saliency-Driven Spectrogram Masking In Progress
  - In this project, we aim to improve ASR models' accuracy and make them robust to different accents by masking the features that correspond to specific accents in our training data.

## ACADEMIC SERVICE

#### Teaching Assistant

Tehran

Sharif University of Technology

2021 - Present

- Intelligent Analysis of Biomedical Images, Graduate Course, Prof. Rohban, Fall 2024
- Machine Learning, Prof. Motahari, Spring 2024, Fall 2023
- Machine Learning, Dr. Seyyedsalehi, Spring 2024
- Artificial Intelligence, Prof. Rohban Spring 2024
- Scientific & Technical Presentation, Prof. Kasaei Spring 2024
- Theory of Languages and Automata, Prof. Izadi, Spring 2024
- Artificial Intelligence, Prof. Rohban Prof. Soleymani Fall 2023
- Logic Design, Dr. Arshadi, Fall 2023 Spring 2023 Fall 2022
- Linear Algebra, Dr. Hossein Ghorban, Spring 2023
- Programming and Data Analysis with Python, Alireza Kadivar, Fall 2021

## Coursework

- Introduction to Bioinformatics
- Intelligent Analysis of Biomedical Images Graduate Course
- Machine Learning
- Artificial Intelligence

#### SKILLS

- Programming Languages and Frameworks: Python, PyTorch, Java, C/C++, PostgreSQL
- Writing and Presentation: LATEX, Word, PowerPoint
- Software: Quartus, Proteus, Git
- Musical Instruments: Piano, Electric Guitar

#### LANGUAGES

- English: Full Professional Proficiency, TOEFL iBT Scores: T=115, R=30, L=29, S=28, W=28
- Persian: Full Professional Proficiency
- French: Elementary Proficiency