

# Ehsan Ahmadpoor

Computer Science Student  
📍 Tehran, Iran  
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## Education

### IUST University ([Ranked among the top 5 universities in Iran](#))

Tehran, Iran

B.Sc. in Computer Science at Iran University of Science & Technology

Sep. 2020- Present

- GPA of last 60 units: **3.75/4 (17.5/20)**
- CGPA: **3.32/4 (16.26/20)**
- Related Courses: Natural Language Processing (**4/4**), Computational Intelligence (**4/4**), Computer Vision (**4/4**), Data Science (**4/4**), Software Engineering (**4/4**), Compiler Design (**4/4**), Graph Theory and Algorithms (**4/4**), Security of Computer Systems (**4/4**)

### Allame Helli 2 High School

Tehran, Iran

- Diploma in Mathematics and Physics
- Affiliated with the National Organization for Development of Exceptional Talents
- CGPA: **4/4 (19.23/20)**

2016-2020

## Research Interests

- Deep Learning
- Machine Learning
- Computer Vision
- Natural Language Processing
- Artificial Intelligence
- Data Science
- Software Engineering

## Academic Experiences

### Computer Vision Research Assistant

IUST

Bachelor Thesis, School of Computer Engineering

April 2024 - Present

- Thesis Title: Diagnosis of Alzheimer's disease using deep neural networks through three-dimensional brain images.
- Supervisor: Dr. Mohsen Soryani (**scholar**)

### Teaching Assistant

IUST

- Software Engineering - Instructor: Dr. Mehrdad Ashtiani Fall 2024
- Artificial Intelligence - Instructor: Dr. Mohammad Reza Mohammadi Fall 2024
- Operating Systems - Instructor: Dr. Reza Entezari-Maleki Fall 2024
- Fundamentals of Computer Programming - Instructor: Dr. Marzieh Malekimajd Fall 2024
- Fundamentals of Computer Programming - Instructor: Dr. Mehrdad Ashtiani Spring 2024
- Advanced Programming - Instructor: Dr. Marzieh Davoodabadi Spring 2024
- Discrete Mathematics - Instructor: Dr. Marzieh Davoodabadi Spring 2024
- Advanced Programming - Instructor: Dr. Sauleh Eetemadi Spring 2024
- Advanced Programming - Instructor: Dr. Marzieh Malekimajd Spring 2024
- Design Algorithms - Instructor: Dr. Farzaneh Ghayour Baghbani Fall 2023
- Fundamentals of Computer Programming - Instructor: Dr. Marzieh Davoodabadi Fall 2023

## Academic Projects

### Keyword-Based Content Summarization Using RAG [\[link\]](#)

Spring 2024

Natural Language Processing Course Project

- Developed a retriever and generator from scratch for book recommendations.
- Implemented a retrieval-augmented generation system to handle book recommendation queries.
- Models:

- Retriever: sentence-transformers/all-MiniLM-L6-v2  
Generators: Microsoft Phi-3, GPT-2, T5
- Technologies: Python, Hugging Face, Transformers, Sentence-Transformers, Pandas.

Question Answering on Persian Data [\[link\]](#)

Spring 2024

- Natural Language Processing Course Project
- Implemented and fine-tuned retrieval-augmented generation models for question answering on Persian text.
  - Evaluated model performance using metrics such as accuracy, precision, recall, and F1-score.
  - Models:  
Retriever: all-MiniLM-L6-v2  
Generator: GPT-2
  - Technologies: Python, Transformers, Accelerate, Bitsandbytes, Hazm, Clean-Text, docx2txt.

Anti-Spoofing Algorithm for Facial Recognition: Liveliness Detection in Videos [\[link\]](#)

Spring 2024

- Computer Vision Course Project
- Developed a facial liveliness detection algorithm using a custom CNN architecture, achieving 100% accuracy on the test set.
  - Preprocessed video frames through resizing, normalization, and random frame extraction.
  - Utilized the CASIA-FASD dataset for model training and evaluation.
  - Implemented additional feature extraction techniques including frequency domain analysis and Local Binary Patterns (LBP).
  - Evaluated model performance using metrics including accuracy, precision, recall, and F1-score.
  - Technologies: Python, TensorFlow, PyTorch, OpenCV, Scikit-Learn.

Grid-Based Pheromone Optimization Simulation [\[link\]](#)

Spring 2024

- Computational Intelligence Course Project
- Implemented a 5x5 grid with 5 balls and 5 holes randomly placed.
  - Developed an agent to find and move balls to holes using a pheromone-based approach.
  - Simulation displays the grid state, including agent, balls, and holes, after each move.
  - Technologies: Python, NumPy

Tascrum: AI-Enhanced Project Management Tool [\[link\]](#)

Fall 2023

- Software Engineering Course Project
- Contributed to the front-end development of Tascrum, a project management platform similar to Trello, featuring an integrated AI chatbot and burndown chart for enhanced project tracking and communication.
  - Leveraged modern technologies, including React Query, Tailwind CSS, ShadcnUI, TypeScript, and React to build responsive, maintainable, and scalable user interfaces.
  - Played a key role in testing and containerizing the application using Docker, ensuring smooth development workflows and deployment processes.

Barba: Salon Management Platform [\[link\]](#)

Spring 2023

- System Design and Analysis Course Project
- Contributed to the development of *Barba*, a platform where users can discover salons, book services like hair and skincare, while barbers and salon managers can manage their clients and operations.
  - Utilized React, Tailwind CSS, HTML5, CSS3, and JavaScript to build responsive and interactive user interfaces.

Theory of languages and Automata [\[link\]](#)

Spring 2023

TLA Course Projects

Developed a project for the Theory of Languages and Automata course, focusing on finite automata, regular languages, grammars, and pushdown automata. Implemented automata transformations, language operations, and grammar verification techniques.

Work Experiences

Junior Software Engineer

Summer 2024

- Bale Bootcamp
- Attending several workshops including Redux, RxJs, Testing, Git, Debugging, etc
  - Developing a whole Issue tracking project from scratch using React, Typescript, Redux and RxJs
  - Adopting top-notch technologies that we were taught during the summer camp

Front End Bootcamp Instructor Summer

Summer 2024

- CESA, Iran University of Science and Technology
- Teaching and mentoring students in Front-end development.
  - Developing hands-on exercises and projects alongside a team of seven to enhance students' practical skills.
  - Collaborating with the Faculty of Computer Engineering to improve students' knowledge through interactive lessons and coding challenges.
  - Supporting and guiding students through real-world scenarios to prepare them for industry challenges.

Skills

Programming Languages	Python, C, C++, C#, Java, JavaScript, SQL
Machine Learning & AI	Pandas, Scikit-learn, Numpy, PyTorch, NLTK, Transformers, Accelerate, Bitsandbytes, TensorFlow
NLP	Hazm, Clean-Text, docx2txt, fine-tuning retrieval-augmented generation models

<b>Deep Learning &amp; Computer Vision</b>	PyTorch, TensorFlow, OpenCV, Keras
<b>Web Development</b>	React, Django, HTML, CSS, Typescript, Redux, RxJs
<b>Databases</b>	MySQL, MongoDB, PostgreSQL
<b>Software Engineering</b>	Object-oriented design patterns, software development methodologies (Agile, Scrum), software testing
<b>DevOps &amp; Technologies</b>	Git, Docker, Kubernetes, Jupyter Notebook
<b>Hardware Design &amp; Simulation</b>	Verilog, VHDL
<b>Operating Systems</b>	Linux (Ubuntu), MacOS, Windows
<b>Interpersonal Skills</b>	Teamworking, Teaching, Self-learning, Problem-solving

## Honors And Certificates

- **Ranked among the top 25% in GPA within the Computer Science faculty at IUST.**
- **Ranked within the top 0.1% in the Iranian University Entrance Exam for Mathematics and Physics majors.**
- **Accepted in the first round of the Iranian Informatics Olympiad.**

## Languages

- **Persian:** Native
- **English:** Fluent (Expected IELTS Score of **7.5**, exam to be taken in the near future)

## Volunteer Experience

- **Honorary Member, Computer Engineering Scientific Association of IUST** *Spring 2023 - Fall 2024*  
Actively involved in organizing key events such as the Summer Bootcamp for Web Development, orientation ceremonies for new students, and various educational courses and workshops.

## References

**Dr. Sauleh Eetemadi**  
Assistant Professor in the Department of Computer Engineering, Iran University of Science and Technology and University of Birmingham  
Email: s.eetemadi@bham.ac.uk

**Dr. Behrooz Minaei-Bidgoli**  
Professor in the Department of Computer Engineering, Iran University of Science and Technology  
Email: b\_minaei@iust.ac.ir

**Dr. Reza Entezari-Maleki**  
Assistant Professor in the Department of Computer Engineering, Iran University of Science and Technology  
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**Dr. Marzieh Malekimajd**  
Assistant Professor in the Department of Computer Engineering, Iran University of Science and Technology  
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**Dr. Mehrdad Ashtiani**  
Assistant Professor in the Department of Computer Engineering, Iran University of Science and Technology  
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**Dr. Mohsen Soryani**  
Associate Professor in the Department of Computer Engineering, Iran University of Science and Technology  
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