






Hossein Farahnaki

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 [Personal Website](#)

PROFILE

- I'm Hossein Farahnaki, an Electrical Engineering student at Sharif University of Technology with a passion for technology, problem solving, and continuous growth. I have strong experience in programming with Python, C++, and Java. Beyond my technical skills, I've earned national medals in the Astronomy Olympiad and now teach and mentor students in this field. I'm also an active trader in the forex and cryptocurrency markets, applying analytical thinking and risk management. I'm always looking for new challenges to expand my knowledge and push my limits.

EDUCATION

Sharif University of Technology **Bachelor of Electrical Engineering**

2022 – present

- Engaged in research and projects with professors. Vice Secretary of the Student Council, representing student interests. Teaching Assistant for multiple courses, supporting students and course management.

Allameh Helli 1 High School **Mathematics and Physics Diploma**

2019 – 2022

- Earned my Mathematics and Physics Diploma. Participated in the Astronomy Olympiad. This was one of the best and most rewarding times of my life.

PROFESSIONAL EXPERIENCE

Tsinghua University **summer internship**

2025

- Worked with Prof. Chao Li to refactor SQLite's pager into C++ classes (FilePager, SQLiteFilePager), moving C APIs to class methods and private members. Built tests and a demo (CMake, GoogleTest) and used a time-series CSV; focused on an in-memory design for IoT

Frenesim das Ondas (Wave To Energy™) **Research Intern**

2025

- Worked with Dr. Kourosh Rezanejad & Dr. Mohammad Jahanbakht on a 5 kW reciprocating air flow turbine test rig for Oscillating Water Column (OWC) applications. Focused on system modeling, control simulation (MATLAB/Simulink), component selection, and feasibility analysis for marine renewable energy.

Helli 1 & 3 & 10, Atomic Energy, Allameh Tabatabai, Salam, Alborz & Farzanegan 2 High School **Astronomy Olympiad teacher**

2022 – present

- Teaching topics such as astrophysics, data analysis, celestial mechanics, and spherical geometry, which are part of the Astronomy Olympiad syllabus, at various schools. Additionally, I serve as an Olympiad curriculum consultant.

IR MCI 2022 – 2024

Software Developer For Swarm Drone Show

- The simulation project of several drones that write a certain text on the sky Using Python and C++ and simulating with Blender.

Troodon Co. 2023 – 2024 **Frontend Developer**

- Contributed to launching an AI-powered website integrating ChatGPT to deliver high-quality responses. Built responsive, component-based UIs with Vue and React, implementing pages with HTML and CSS.

Quera Completed an intensive Product Management Bootcamp at Quera, focused on product fundamentals, market analysis, agile delivery, and leadership.	2024
Yale University Completed an online course on Financial Markets taught by Nobel Laureate <i>Robert J. Shiller</i> , covering risk management, market dynamics, and behavioral finance.	2025

SKILLS
<div> <ul style="list-style-type: none"> Data Analysis Java Programming Computer Skills <ul style="list-style-type: none"> Python Programming Pspice & LTspice Ability to Multitask <ul style="list-style-type: none"> C++ Programming Matlab/Simulink Ability to Work in a Team </div>
PROJECTS
<div> <div>Instagram Online Shops Data</div> <ul style="list-style-type: none"> Built a web crawler to collect data from Instagram stores and conducted interviews with selected owners; currently analyzing business and engagement insights. </div> <div> <div>Machine Learning Model for EMG Signal Recognition</div> <ul style="list-style-type: none"> Developed a model to classify hand movements from EMG signals using KNN, LDA, Random Forest, and SVM, showcasing expertise in signal processing and machine learning. </div> <div> <div>Polyp Detection Project with Deep Learning</div> <ul style="list-style-type: none"> Worked with a dataset of 4,000 colon images to detect polyps with high accuracy using deep learning, focusing on data preprocessing, model training, and optimization </div> <div> <div>SnappFood Simulation Project</div> <ul style="list-style-type: none"> Developed a SnappFood simulation with Java, JSON, HTML, and CSS, featuring restaurant search, menu viewing, order placement, online payment, and route mapping akin to Google Maps. </div>

AWARDS
<div> <div>Silver Medal</div> <div>Astronomy and Astrophysics Olympiad</div> <ul style="list-style-type: none"> I won a silver medal in the Astronomy and Astrophysics Olympiad. This experience deepened my knowledge in celestial mechanics, stellar physics, and observational astronomy. Competing with top students from around the country enhanced my analytical and research skills. </div> <div> <div>Bronze Medal</div> <div>Astronomy and Astrophysics Olympiad</div> <ul style="list-style-type: none"> In addition to winning a silver medal, I had won a bronze medal the previous year. </div> <div> <div>Mathematics Competitions</div> <ul style="list-style-type: none"> I participated in the Kangaroo Math Competition and won a medal. Additionally, I regularly competed in the Math House competitions, where I earned various medals. </div>

INTERESTS
<div> <div>Technology & Gadgets</div> <ul style="list-style-type: none"> Exploring the latest technologies, including processor architectures, laptops, smartphones, cameras, and other gadgets. </div> <div> <div>Trading & Financial Market</div> <ul style="list-style-type: none"> Active trading in forex and cryptocurrency markets, analyzing trends, and managing investments. </div>