

## EDUCATION

*Sep 2022—Present* **Degree:** Master of Science in Statistical Physics and Complex Systems  
**Where:** Shahid Beheshti University, Tehran, Iran  
**GPA:** 18.5 of 20

*Sep 2018—May 2022* **Degree:** Bachelor of Science in Physics  
**Where:** Shahid Beheshti University, Tehran, Iran  
**GPA:** 17.3 of 20

## RESEARCH INTEREST

- Biological Physics
- Complex Systems
- Data Science
- Cognitive Science
- Computational physics
- ML & AI

## RESEARCH EXPERIENCE

*Jan 2024—Present* **Project:** Working on fMRI Data Using Topological Data Analysis (TDA)  
**Where:** Shahid Beheshti University  
**Advisor:** Prof. G.Reza Jafari

- Applied Topological Data Analysis (TDA) to study fMRI data and uncover brain connectivity patterns.
- Analyzed cerebral activity differences between individuals with Autism Spectrum Disorder (ASD) and neurotypical cohorts
- Used age-stratified methods to examine neurodevelopmental trajectories across various age groups.

*Dec 2023—Present* **Project:** Automatic Classification and Segmentation of Heart Coronary Artery Diseases  
**Where:** Shahid Rajaei Heart Hospital, Tehran, Iran  
**Advisor:** Mehdi Yousefzadeh

- Leading a project focused on X-ray angiography image analysis for the segmentation and classification of coronary artery diseases.
- Collected and processed medical data from the hospital, working with DICOM files to identify and label vessels and catheters.
- Developed custom augmentation techniques to enhance data quality and improve segmentation accuracy.

*Aug 2022—Oct 2022* **Project:** Abnormality Detection in Head CT Scan Reports using Text Mining  
**Where:** Imam Hossein Hospital Research Council, Tehran, Iran  
**Advisor:** Mehdi Yousefzadeh

- Conducted text mining and preprocessing on radiology reports to detect abnormalities.

## PUBLICATIONS

- Mohammadi, M.S., Shahrokhi, S., **Mozaffari, M.** et al. Nonlinear optical response of IMIP ionic liquid-stabilized magnetic graphene oxide sheets. J Mater Sci: Mater Electron 33, 13224–13233 (2022).

## HONORS AND AWARDS

- Second rank** in M.Sc. Statistical Physics and Complex Systems, Shahid Beheshti University (2023).
- Admitted to the master's program through **the Exceptional Talent initiative** for top students (2022).
- First rank** among B.Sc. students, Physics Department, Shahid Beheshti University (2021-2022).
- Top 1%** in nationwide university entrance exam in Iran (2018).

## SKILLS

### Computing

- Python (Advanced)
- Bash/Linux (Intermediate)
- HTML, CSS (Elementary)
- C++ (Intermediate)
- Adobe Illustrator (Advanced)
- LaTeX (Advanced)
- Git (Intermediate)
- Adobe Photoshop (Intermediate)
- Microsoft Office Suite: Word, Excel, PowerPoint (Advanced)

### Languages

- Persian (Native)
- English (Fluent)

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## WORK EXPERIENCE

- Jul 2024—  
Present

**Position:** Python Instructor  
**Where:** Ostadbank, Tehran, Iran

  - Teaching Python object-oriented programming, machine learning, and AI to students, focusing on real-world applications and mini projects.
- Jun 2023—  
Present

**Position:** Python Instructor  
**Where:** Picha Club, Tehran, Iran

  - Instructing pre-teens and teens in Python fundamentals, algorithms, and Tkinter.
  - Guiding students through game development projects.

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## TEACHING EXPERIENCE

**Position:** Teaching Assistant  
**Where:** Department of Physics, Shahid Beheshti University, Tehran, Iran  
**Courses:**

- Stochastic Processes (Jan 2024 – Jul 2024)
- Foundations of Numerical Simulations (Sep 2023 – Jan 2024)
- Complex Systems Physics (Sep 2023 – Jan 2024)
- Analytical Mechanics (Sep 2022 – Jan 2023)

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## CERTIFICATIONS

- Machine Learning Specialization, Coursera (2023).
- Neural Networks and Deep Learning, Coursera (2022).
- Quantum Computing and Implementation in Python, Qorpi Engineering Workgroup – KNTU Innovation Center (2022).
- Quantum Information and Computers, Interdisciplinary Schools, Sharif University of Technology (2021).

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## CONFERENCES & SCHOOLS ATTENDED

- Sep 2024—  
Sep 2024

**Where:** Shahrood University of Technology, Semnan, Iran  
**Title:** 5th National Conference on Quantum Information and Computing

  - Attended presentations on the latest advancements in quantum information theory and quantum computing.
- Oct 2023—  
Dec 2023

**Where:** School of Biological Sciences, IPM, Tehran, Iran  
**Title:** The School of Evolutionary Dynamics of Cells and Viruses

  - Participated in lectures and discussions on evolutionary dynamics in cells and viruses.
  - Explored theoretical models and their biological applications.
- Jul 2023—  
Jul 2023

**Where:** Institute for Advanced Studies in Basic Science, Zanjan, Iran  
**Title:** The 28<sup>th</sup> Special School on Topics in Physics

  - Engaged in advanced discussions on topics like condensed matter physics, quantum mechanics, and biosensing technologies.










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## PERSONAL INFORMATION

- Gender: Female
- Nationality: Iranian
- Date of Birth: Aug. 10<sup>th</sup>, 2000

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## REFERENCES

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