

# Curriculum Vitae

## ***Personal Information***

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First Name: Shayan

Date of Birth: March 24, 2001

Last Name: Zavvarei

Nationality: Iranian

Email Address: shyanzavvarei@gmail.com

Linked in: [www.linkedin.com/in/shayan-zavvarei-245628228](http://www.linkedin.com/in/shayan-zavvarei-245628228)

ORCID ID: <https://orcid.org/0009-0002-2937-9053>

## ***Education***

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### **B.Sc. of Physics October 2019 - February 2023**

- Department of Physics, Yazd University, Yazd, Iran
- GPA: 3.41 out of 4

### **M.Sc. of High Energy Physics October 2023 - Present**

- Department of Physics, Shahid Beheshti University, Tehran, Iran
- Thesis title: Massive Neutrinos and Implications on the Cosmic Structures
- Supervisor(s): Dr. Shehu AbdusSalam, Dr. Mohammad Sedegh Movahed

## ***Research Interests***

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| ➤ Neutrino Cosmology and Cosmic Neutrino Background          | ➤ Computational Cosmology and Machine-Learning Methods                |
| ➤ Large-Scale Structure Formation and Morphological Analysis | ➤ CMB Physics and Observational Cosmology                             |
| ➤ Dark Matter Phenomenology in Cosmological Contexts         | ➤ Simulation-Based Inference and ML-Accelerated Cosmological Modeling |

## ***Publications***

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- Photometric Light Curve Analysis of Two Contact Binary Systems LS Del and V997 Cyg  
Photometric Light Curve Analysis of Two Contact Binary Systems LS Del and V997 Cyg  
Research in Astronomy and Astrophysics · Mar 4, 2024

- The Effect of Massive Neutrinos on Large-Scale Structures Using Minkowski Functionals and Conditional Moments of Derivative  
Iranian Cosmology Conference, 2025

### ***Workshop and Conferences***

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- IPM School on High Energy Physics **2024**  
Institute for Research in Fundamental Sciences (IPM)
- 4th IPM Workshop on Experimental Particle Physics **2023**  
4th IPM Workshop on Experimental Particle Physics  
Institute for Research in Fundamental Sciences (IPM)
- Second NCTS/UCAT/NTHU International Astronomy Winter School, University of Taiwan (Online) **2023**  
Topic: Magnetism in Star-Forming and Galactic Environments
- Transient Events and Multi messenger Astrophysics (Online) **2022**  
Iranian National Observatory/IPM
- 7th International workshop On Occultation and Eclipse **2017**  
7th International workshop On Occultation and Eclipse  
IOTA/ME
- From the Big Bang to Dark Energy **2022**  
An Online Course authorized by The University of Tokyo and offered through Coursera
- AI-Driven HEP **2025**  
Institute for Research in Fundamental Sciences (IPM)

### ***Presentations***

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- Massive Neutrinos and Implications on the Cosmic Structures, Local Conference, Shahid Beheshti University, Tehran, Iran **2025**
- Cosmic Neutrino Background (CNB), Local Conference, Shahid Beheshti University, Tehran, Iran **2023**  
Supervised by: Dr. MS Movahed
- Gravitational Lensing, Local Conference, Yazd University, Yazd, Iran **2023**  
Supervised by: Dr. Zahra Rezaei

### ***Academic Experience***

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- **Teaching Assistant**, Yazd University, Yazd, Iran **May 2022- February 2023**  
Special Relativity  
Supervised by: Dr. Zahra Rezaei

- **Teaching Assistant**, Yazd University, Yazd, Iran  
Fundamental Physics  
Supervised by: Dr. Mohammad Ali Haddad

**September 2019- December 2019**

### ***Software Skills***

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- Python (Scientific Computing & Data Analysis) Advanced
- C++ (Numerical Programming) Intermediate
- Computational Physics Tools (Simulations & Modeling) Intermediate
- Machine Learning (scikit-learn, TensorFlow/PyTorch basics) Intermediate
- Topological Data Analysis Elementary
- Linux/Unix Environments & Shell Scripting Intermediate
- Git & Version Control Advanced
- Kotlin Intermediate

### ***Honors***

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- Ranked in top 1% of the Entrance, Department of Physics, Shahid Beheshti University, Tehran, Iran **2025**
- Ranked in top 1% of the Graduated Program, Department of Physics, Yazd University, Yazd, Iran (1<sup>th</sup> Participants According to GPA) **2023**
- Bronze Medal in the National Student Astronomy Olympiad, Shiraz, Iran **2018**

### ***Volunteering***

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- Research Assistant at the Ibn-Sina Interdisciplinary and Complex Systems Laboratory, Shahid Beheshti University, Tehran, Iran **2024-2025**
- Associate of Yazd University Physical Society, Yazd University, Yazd, Iran **2021-2022**
- Associate of Yazd University Physical Society, Yazd University, Yazd, Iran **2019-2020**

### ***References***

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**Dr. Mohammad Sedegh Movahed**

Email: s.movahed@sbu.ac.ir

Professor, Department of Physics, Shahid Beheshti University, Tehran, Iran

**Dr. Shehu AbusSalam**

Email: abdussalam@sbu.ac.ir

Assistant Professor, Department of Physics, Shahid Beheshti University, Tehran, Iran

**Dr. Zahra Rezaei**

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Assistant Professor, Department of Physics, Yazd University, Yazd, Iran

**Dr. Mohammad Ali Haddad**

Email: mahaddad@yazd.ac.ir

Assistant Professor, School of Atomic and Molecular Physics, Department of Physics, Yazd University, Yazd, Iran

***Extra Activities***

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- The Organizer of the public observation of the solar eclipse in the University for more than 200 student, Yazd University, Yazd, Iran **October 2022**
- The Organizer of the public observation of the Mercury transit in the University **November 2019**
- Content Writer in Under Iran Sky Project **2020- Present**
- Content Writer in Zanko Education Company **2019-2020**
- Astronomy Teacher, Shiraz Municipality **2018- 2020**