

# Farshid Gholami

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## EDUCATION

**Department of Physics, Sharif University of Technology,**  
*B.Sc. in Physics*  
*Current CGPA:*  
*Last Two Semesters CGPA:*

Tehran, Iran  
*Sep 2018 - Present*  
*16.09/20 (2.85/4)*  
*18.83/20 (3.83/4)*

**Atomic Energy High School,**  
*Diploma in Mathematics*  
*CGPA:*

Tehran, Iran  
*Jul 2014 - Jun 2018*  
*19.14/20 (4/4)*

## RESEARCH INTERESTS

Astronomy, Astrophysics, Observational Astrophysics, Star Formation, Structure Formation, Cosmology, Observational Cosmology, Black Holes

## RESEARCH EXPERIENCE

- **Research Assistant, Institute for Research in Fundamental Sciences, Iran**

Under the supervision of **Dr. Atefeh Javadi**. (*Feb 2022 - Present*)

- **Member, Sharif University of Technology's Astronomy Group, Iran**

A group of students, mainly from Department of Physics, that provides conferences, workshops, and scientific talks by national and international scientists, moderate student activities such as study circles and scientific magazines about astronomy and astrophysics's topics. (*Jan 2022 - Present*)

## SELECTED COURSE PROJECTS

- A term paper on “**Pulsars and Magnetars**” for my “*Introduction to Astronomy*” course based on Ganesar Chanmugam's article, “**Magnetic Fields of Degenerate Stars**”, and Sandro Mereghetti's article, “**The Strongest Cosmic Magnets: Soft Gamma-ray Repeaters and Anomalous X-ray Pulsars**”, explaining the basic nature of pulsars and magnetars and doing basic calculations on this topic. (*Fall 2020-2021 Semester*)

**Supervisor: Dr. Reza Rezaei**

- A term paper on “**Special Relativistic Effects in Astrophysical Jets**” for my “*Special Relativity*” course based on Diana M. Worrall's article, “**The X-ray Jets of Active Galaxies**”, deriving laws of relativistic beaming and aberration for astrophysical jets. (*Fall 2020-2021 Semester*)

**Supervisor: Dr. Shant Baghran**

- A term paper on “**Cosmic Ray Detection**” for my “*Analytical Mechanics I*” course based on Thomas K. Gaisser's book, “**Cosmic Rays and Particle Physics**”, Todor Stanev's book, “**High Energy Cosmic Rays**”, Claus Grupen's book, “**Astroparticle Physics**”, and Malcolm Sim Longair's book, “**High Energy Astrophysics**”, using the method of tracking primary cosmic rays through analysing air showers detected and observed in earth's atmosphere. (*Fall 2020-2021 Semester*)

**Supervisor: Prof. Sohrab Rahvar**

- A term paper on “**Particles Acceleration and Radiation in Relativistic Astrophysical Jets**” for my “*Electromagnetism II*” course based on Lev Landau's book, “**The Classical Theory of Fields**”, and John David Jackson's book, “**Classical Electrodynamics**”, deriving laws of radiation for an accelerated and rapidly moving particle in a relativistic astrophysical jet. (*Spring 2020-2021 Semester*)

**Supervisor: Prof. Mahmud Bahmanabadi**

## AWARDS & HONORS

**Silver Medal in the 12th Iran National Olympiad on Astronomy and Astrophysics**  
*Iran National Olympiad on Astronomy and Astrophysics is the final stage of preparation and competitions for the International Olympiad on Astronomy and Astrophysics (IOAA) during summer, which is held by Young Scholars Club. (2016)*

**Silver Medal in the 13th Iran National Olympiad on Astronomy and Astrophysics**  
*Iran National Olympiad on Astronomy and Astrophysics is the final stage of preparation and competitions for the International Olympiad on Astronomy and Astrophysics (IOAA) during summer, which is held by Young Scholars Club. (2017)*

#### **Member of Iran's National Elites Foundation**

*Iran National Elites Foundation is a statewide organization and composed of members with significant scientific and executive background. (2016 - Present)*

#### **SELECTED COURSES & GRADES**

##### **Physics Courses**

- Astrophysics I (M.Sc.): 20
- Solar Physics (M.Sc.): In Progress
- Special Relativity (B.Sc.): 19.5
- Introduction to Astronomy (B.Sc.): 20
- Quantum Mechanics I (B.Sc.): In Progress
- Mathematical Physics I (B.Sc.): 19.5
- Analytical Mechanics II (B.Sc.): 18.2
- Thermodynamics and Statistical Mechanics II (B.Sc.): 19.5
- Differential Equations (B.Sc.): 18.8

##### **Philosophy of Science and Humanities Courses**

- Introduction to Philosophy of Science (M.Sc.): 20
- Physics and Philosophy I (M.Sc.): In Progress
- Introduction to Sociology (B.Sc.): In Progress

#### **TEACHING EXPERIENCE**

##### **Teaching Assistant**

- Introduction to Astronomy (Physics B.Sc.): **Prof. Mahmud Bahmanabadi**
- Astrophysics I (Physics M.Sc.): **Prof. Mahmud Bahmanabadi**
- Analytical Mechanics I (Physics B.Sc.): **Prof. Sohrab Rahvar**
- Analytical Mechanics II (Physics B.Sc.): **Prof. Sohrab Rahvar**

##### **High School Teaching**

Teaching following topics for high school students, participating in Iran National Olympiad on Astronomy and Astrophysics, among best high schools in Iran: *Astronomy, Astrophysics, Cosmology, Classical Mechanics, Celestial Mechanics, Spherical Astronomy, Galactic Dynamics, Data Analysis and Sky Observation*

#### **OTHER ACTIVITIES & EXPERIENCES**

- **Secretary-General of Education, Sharif University of Technology Students' Union Council, Iran**  
*A nonprofit organization consisting of students dedicated to social, organizational activities, representation, and academic support of the membership. (Jan 2022 - Present)*
- **Secretary-General, Department of Physics Students' Union, Iran**  
*A nonprofit organization consisting of students dedicated to social, organizational activities, representation, and academic support of the membership. (Jan 2022 - Present)*
- **Writer and Scientific Editor, Shabahang Magazine, Iran**  
*"Shabahang" (Persian name of "Sirius" star) magazine is a professional academic magazine that contains astronomical subjects and interviews with several domestic and international scientists. This magazine consists of students from the department of physics of the Sharif University of Technology. (Jan 2022 - Present)*

#### **TECHNICAL SKILLS**

**Programming Languages:** Python, C, C++, HTML

**Tools:** Wolfram Mathematica, MATLAB, Maple

**Documentation:** L<sup>A</sup>T<sub>E</sub>X, Microsoft Office, Adobe InDesign

**Others:** Amateur Astronomy (Observing the night sky with an 8-inch Sky-Watcher telescope)

**NON-  
ACADEMIC  
ACTIVITIES**

**Languages:** Persian (native), English (fluent)

**Habits:** Listening to Classical Music, Watching Movies, Reading Books, PC Gaming

**Interested In:** Philosophy, Social Science, History, Literature