

Mohammad MIRMOHAMMADI

PERSONAL DATA

PLACE AND DATE OF BIRTH: Iran | 21 August 2008
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PERSONAL STATEMENT

I am an 11th-grade student at Energy Atomi High School with a profound passion for physics and the history of mathematics and physics. Currently preparing for the Physics Olympiad in my country, I have developed strong problem-solving skills and a deep appreciation for the subject. My enthusiasm extends beyond the classroom, as I enjoy writing articles on historical and theoretical aspects of physics and mathematics. This has enhanced my ability to communicate complex ideas effectively.

Participating in the Physics Olympiad has been a transformative experience, teaching me perseverance, scientific thinking, and critical thinking. I love to explore and learn higher-level concepts in these subjects, constantly pushing myself to understand more advanced theories and applications. Additionally, I am passionate about continuing my work in electrical engineering, where I can apply my knowledge of physics and mathematics to innovate and solve real-world problems.

I am particularly interested in the intersection of physics and mathematics and aspire to pursue a career in scientific research to contribute to the field and make a meaningful impact on society.

EDUCATION

Energy Atomi School, Tehran, Iran
11th Grade Student
Expected Graduation: June 2026

- Focused on advanced topics in Physics and Mathematics
- Preparing for the National Physics Olympiad
- Engaged in self-study of higher-level math and physics concepts
- Writing articles on advanced topics in math and physics

Achievements

- **Physics Olympiad Preparation:** Actively preparing for the National Physics Olympiad, demonstrating a strong grasp of complex physics concepts.
- **Article Publications:** Authored several articles on topics in math and physics, showcasing analytical and writing skills.
- **Top student Awards:** Consistently ranked among the top students in class and also Physics Olympiad classes.

Skills

- **Advanced Mathematics:** Proficient in higher-level math topics including calculus, differential equations, and perturbation theory.

- **Physics:** Strong understanding of high-level physics concepts in such as classical mechanics and electromagnetism.
- **Research and Writing:** Skilled in conducting research and writing detailed articles on complex scientific topics.
- **Problem-Solving:** Excellent problem-solving abilities, particularly in mathematical and scientific contexts.
- **Self-Motivation:** Highly self-motivated and disciplined in pursuing advanced studies independently.
- **Reading Advanced Articles:** Regularly read advanced articles from sources like mamwad.org, enhancing knowledge and understanding of complex topics.

EXTRACURRICULAR ACTIVITIES AND EXPERIENCE

- NOVEMBER 24, 2022 I Got invited by Goethe-Institut to participant in the regional youth camp in Kandy, Sri Lanka from 24.11.2022 to 28.11.2022. Also, I got certification from Puneet Kaur head of educational services of Goethe-Institut
- JANUARY 7, 2024 Helping to strengthen the academic level and knowledge of children under the responsibility of the educational committee of the help-seekers (the General Directorate of Welfare of Tehran province) in high school specialized lessons in order to improve the academic skills of the disabled.
(reference number: 717/02100/585808)
- AUGUST 10, 2024 Helping the welfare of Shemiranat city in evaluating the scientific and educational level of the children covered in order to plan for the growth and excellence of the children covered by this center.
(reference number: 717/031003/10114)
- AUGUST 11, 2024 Efforts to support the rights of people with disabilities and to improve the scientific level and increase the knowledge of the children of the country's welfare organization in some centers under the cover of detailed planning based on a humanitarian and benevolent perspective.
(reference number: 900/1403/31265)
- SEPTEMBER 22, 2024 The article written by myself about the prerequisites of perturbation theory named "Introduction to Perturbation Theory I" in Persian.

SKILLS

Courses and Topics Covered:

1. Classical Mechanics

- *Fundamentals of Physics*, 11th edition by Halliday and Resnick: Chapters 1-12, 15
- *An Introduction to Mechanics* by Daniel Kleppner: Chapters 1-10
- *Introduction to Classical Mechanics* by David Morin: Chapters 1-5, 7-10

2. Electromagnetism

- *Fundamentals of Physics*, 11th edition Halliday and Resnick: Chapters 21-31
- *Introduction to Electrodynamics* by David J. Griffiths: Chapters 1-3, 5, 7 (before Maxwell's equations)

3. Thermodynamics

- *Fundamentals of Physics*, 11th edition Halliday and Resnick: Chapter 18
- *Heat and Thermodynamics* by Mark W. Zemansky : Chapters 1-5

4. Fluid Mechanics

- *Fundamentals of Physics*, 11th edition Halliday and Resnick: Chapter 14
- *Fluid Dynamics for Physicists* by T. E. Faber: Chapters 1-2, 6, parts of Chapter 3

5. Optics

- *Fundamentals of Physics*, 11th edition Halliday and Resnick: Chapter 34
- *Optics* by Eugene Hecht: Chapters 1,5 (Geometric optics)

6. Mathematics

- *Calculus* by James Stewart: All chapters
- Additional topics: Perturbation theory, Dirac Delta Function, basic complex analysis, tensors, Fourier series

7. Experimental Physics

- *Practical Physics* by G. L. Squires: Chapters 1, 5-12
- *An Introduction to Error Analysis* by John R. Taylor: Chapters 1-5

8. Computer

- Programming: Python
- Miscellaneous: Microsoft Office, \LaTeX

LANGUAGES

PERSIAN: Mothertongue
ENGLISH: Fluent
DEUTSCH: Basic Knowledge
ARABIC: Basic Knowledge

HOBBIES

Music, books, writing and reading articles, movies