



MEYSAM HASSANDOUST

Undergraduate Student

CONTACT

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INTEREST

Mathematical Physics
Quantum Field Theory
Quantum Gravity
Quantum Cosmology
Quantum Foundations

SKILLS

Python	4+ yrs
C/C++	3+ yrs
HTML/CSS	2+ yrs
Latex	3+ yrs
Linux	3+ yrs
Mathematica	1+ yrs
Web Development	2+ yrs
Teaching	6+ yrs
Problem Solving	

EDUCATION

BTech - Physics

Shahid Beheshti University - Tehran, Iran

2019 - Present

- **Courses:** Mathematical Physics, Quantum Mechanics, Electromagnetism, Electrodynamics, Analytical Mechanics, Theory of Relativity, Solid State Physics, Foundation of Matrices and Linear Algebra

High School

Atomic Energy High School - Tehran, Iran

2016 - 2019

- Passed with Distinction
- Specialised in Physics and Maths

RESEARCH EXPERIENCE

Quantum Cosmology

Shahid Beheshti University

Aug 2023 - Present

- WaveFunction of the Universe in Anisotropic Minisuperspace Model.
- Analytical solution of the Dirac equation near the event horizon of a charged black hole.

Quantum Mechanics

Shahid Beheshti University

Sep 2022 - Present

- Supersymmetry in Quantum Mechanics by Generalized Uncertainty Principle.
- Supersymmetry in Quantum Mechanics for Dirac equation in FRW space-time.
- Supersymmetry time dependent in Quantum Mechanics.

Quantum Optics

Shahid Beheshti University

Jun 2022 - Sep 2022

- Literature Review on Rydberg RF Receiver Operation to Track RF Signal Fading and Frequency Drift .
- Literature Review on Electromagnetically Induced Transparency (EIT) .
- Literature Review on Atom-based RF electric field sensing .
- Investigating the phenomenon of anti-resonance and resonance in coupled oscillators and comparing the Fano phenomenon in classical and quantum states .
- Analytical solution of N Coupled Oscillators in Classical Mechanics.

Mathematical Physics

Shahid Beheshti University

Jun 2022 - Present

- Pseudo-Supersymmetry time-dependent in Quantum Mechanics.
- Literature Review on Pseudo-Hermitian Hamiltonian Representation Of Quantum Mechanics .
- Literature Review on Pseudo-Supersymmetry in Quantum Mechanics.

HOBBIES

SPORT

I have played in the Mahram team in the youth category and after that, I switched to street basketball.

COOKING

I love cooking. I am an expert in most Indian-style cooking, enjoy baking and making my own pizza.

MUSIC

I am a Setar musician and used to compose music

ART

I have always enjoyed drawing since I was a child. Recently, I have worked with graffiti.

VIDEO GAMES

I always had the gaming gene. I mostly play on my PC.

Computational Work Shahid Beheshti University

Jun 2020 - Present

- Numerical Approach (Monte Carlo Method) For Feynman Path Integral. (Basic)
- Numerical Approach For Schrödinger Equation .
- Numerical solution of Laplace Equation in Electromagnetic .
- Numerical solution of Ising Model .
- Numerical solution of the Three-Body Problem .

TEACHING EXPERIENCES

Mathematical Physics I Teacher's Aide Shahid Beheshti University

Sep 2023 - Feb 2024

- Course Instructor: Prof. Mohammad Aliakbari

Quantum Mechanics I Teacher's Aide Shahid Beheshti University

Sep 2023 - Feb 2024

- Course Instructor: Prof. Ali Sadeghi

Quantum Mechanics I Teacher's Aide Shahid Beheshti University

Sep 2022 - Feb 2023

- Course Instructor: Prof. Ali Sadeghi

General Physics I Teacher's Aide Shahid Beheshti University

Sep 2022 - Feb 2023

- Course Instructor: Prof. Siamak Sadat Gousheh

Mathematical Physics II Teacher's Aide Shahid Beheshti University

Mar 2021 - Jun 2022

- Course Instructor: Prof. Ali Hosseini

Analytical Mechanics II Teacher's Aide Shahid Beheshti University

Mar 2021 - Jun 2022

- Course Instructor: Prof. Mohammad Aliakbari

Mathematical Physics I Teacher's Aide Shahid Beheshti University

Sep 2021 - Feb 2022

- Course Instructor: Prof. Ali Hosseini

ACHIEVMENTS

Ranked
8th in the university students' national Physics Olympiad

2023

Ranked
One of the first 15 students in the national master studies entrance exam

2023

Pass
Passing the First Stage Of Astronomy Olympiad

2018

Pass Passing the First Stage Of Physics Olympiad	2018
Pass Passing the First Stage Of Mathematics Olympiad	2018
Ranked 6th in the Messie Marathon	2018
Winner National Gold Medal WMTc Mathematics Competition	2014
Pass Passing the second Stage Of IMC Mathematics Competition	2013

WORKSHOPS & CONFERENCES

The Hilbert space and holography of information in de Sitter quantum gravity ICTP	Oct 2023
A Heavy QCD Axion model in Light of Pulsar Timing Arrays ICTP	Oct 2023

LANGUAGES

- English : **Upper Intermediate**
- Persian : **Native Proficiency**