Himanshu Singh

Roll No.:212121020
MSc. Physics
Depratment of Physics
Indian Institute Of Technology, Guwahati

+91-9821659976
himanshusinghp1@gmail.com
himanshusingh@iitg.ac.in
Github
linkedin.com/in/himanshusingh0021

EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
MSc.	Indian Institute of Technology, Guwahati	7.39 (Current)	2021-Present
BSc.	University of Delhi	8.432	2018-2021
Senior Secondary	CBSE Board	92.8%	2018
Secondary	CBSE Board	10	2016

PROJECTS

- **Lattice Gas Study of Ion Transport Using Monte Carlo Simulation.** *May. 2022 - Current*
  Padma Kumar Padmanabhan, Dept. of Physics, IIT Guwahati Github

  – Study the diffusion process in a two dimensional lattice using Monte Carlo Simulation.
  – Introduce different relevant physical parameters and study how the diffusion process will be affected with vacancy(%) of the lattice.
  – Can be further generalised to help understand the processes which affect the diffusion in the materials which are used to create SOFC (Solid Oxide Fuel Cells)

- **Word Guessing Game for Command Line** *Sept. 2022*
  Self Github

  – A Word Guessing game that runs on windows command prompt, the player has to guess the five letter word in six tries.
  – Each try gives the player a visual cue, allowing the player to see and make change to their next guess accordingly.

- **Ground State Energy Calculation of quantum System Using Variational Quantum Monte Carlo Method** *Nov. 2022*
  Self Github

  – Estimate the ground state energy of quantum systems using Variational Monte Carlo.
  – Calculate the ground state energy of the One Dimensional Harmonic Oscillator and Helium atom, using Metropolis Algorithm to calculate the the trial Hamiltonian.

TECHNICAL SKILLS

- **Programming**: Python, C++*

- **Tools**/**Frameworks**: Numpy,Matplotlib

- **Operating Systems**: Windows, Ubuntu*   ** Elementary proficiency*

KEY COURSES TAKEN

- **Physics**:
  – Statistical Mechanics
  – Quantum Mechanics
  – Classical Mechanics
  – Electrodynamics

- **Miscellaneous** :
  – Python for Everybody
  – Introduction to Self Driving Cars
  – Python Data Structures

POSITIONS OF RESPONSIBILITY

- **Postgraduate Departmental Placement Representative**,Physics, IIT Guwahati *Aug. 2022- Current*

CO-CURRICULARS

- **Neuromatch Academy**,Attended Neuromatch Academy on Computational Neuroscience *2021*
- **Qiskit Global Summer School**,Participated in Qiskit Global Summer School on Quantum Simulation *2022*