

# PIYUSH MAJI

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## EDUCATION

### Indian Institute of Technology Hyderabad

Expected July 2027

*M.Sc. in Physics / Telangana, India   CGPA: 7.5/10*

### Hooghly Mohsin College

August 2024

*B.Sc. in Physics / West Bengal, India   CGPA: 7.28/10*

## PROJECTS

### Voice Assistant with AI Integration (Friday)

*Self-Initiated Project*

- Developed a Python-based voice assistant with wake-word detection, speech recognition, and text-to-speech using **SpeechRecognition** and **pyttsx3**.
- Implemented modular command routing for web navigation, system queries, music playback, and AI-based conversational fallback.
- Applied multithreading, structured data handling, and reusable modules following clean software architecture principles using **NumPy** and **Pandas**.

### Computational Modeling of Particle Motion in Brownian Systems

*Prof. Anupam Gupta, Department of Physics, IIT Hyderabad*

- Simulated stochastic particle trajectories and computed Mean Squared Displacement (MSD) using Python scientific libraries.
- Performed log-log regression on MSD to identify diffusive, sub-diffusive, and super-diffusive regimes.
- Interpreted results using concepts from stochastic processes and statistical mechanics.

### Epidemic Modeling Using Compartmental Dynamics

*Prof. Anupam Gupta, Department of Physics, IIT Hyderabad*

- Developed SIR and SIRS epidemic models using systems of ordinary differential equations (ODEs).
- Analyzed transmission thresholds, infection peaks, and equilibrium stability through numerical simulations in Python.

## SKILLS

**Hard Skills:** Python, NumPy, Pandas, Data Analysis, Machine Learning, C, LaTeX, Git, MS Office

**Soft Skills:** Communication, Problem-Solving, Critical Thinking

## CERTIFICATIONS

- Machine Learning Fundamentals in Python – DataCamp

## LEADERSHIP & MANAGEMENT

### Coordinator (Inbound and Multimedia), International Relations Cell, IIT Hyderabad

*Coordinated orientations, cultural programs, multimedia outreach, and outbound tours for international exchange students, primarily from Japan and the US.*