

# PIYUSH MAJI

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## EDUCATION

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**Indian Institute of Technology Hyderabad**

Expected July 2027

*M.Sc. in Physics / Telangana, India*

**Hooghly Mohsin College**

August 2024

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

## PROJECTS

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### 8-bit Computer

*Prof. Anurag Tripathi, Department of Physics, IIT Hyderabad*

- Designed and implemented core modules (Clock, RAM, Registers, ALU) for an 8-bit computer based on the SAP-1 architecture.
- Built a functional system using basic electronic components to demonstrate digital logic, memory architecture, and instruction execution.
- Programmed the system using Arduino for control and execution.

### Computational Modeling of Particle Motion in Brownian Systems

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

- Developed a Python workflow using **NumPy** and **Matplotlib** to process 122,000 binary files, visualize particle trajectories, and compute Mean Squared Displacement (MSD) for time-series analysis.
- Applied log-log regression on MSD data to classify motion types (diffusive, sub-diffusive, super-diffusive), automating scientific interpretation and improving analysis efficiency.

## SKILLS

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**Hard Skills:** Python, C, LaTeX, MS Office, Matplotlib, NumPy

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

## CERTIFICATIONS

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- Completed NPTEL course "Introduction to Quantum Computing: Quantum Algorithms and Qiskit" (IITs & IISc initiative).

## LEADERSHIP & MANAGEMENT

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

*Guided exchange students (mainly from Japan and the US) by organizing orientation sessions, cultural events, and local school visits to promote cross-cultural understanding, and also arrange outbound tours*

**Member of Infocus (Photography Club, IIT Hyderabad)**

*Managed logistics and promotion for campus-wide photography contests and exhibitions.*