Ayan Ashraf

3th-Semester B.Sc. Student (Physics) @ Indian Institute of Science (IISc)

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About Me

I am an undergraduate physics student with a strong interest in **astronomy,** **semiconductor physics,** and **computational systems.**

I enjoy bridging the gap between theoretical physics and applied computer science, using programming to automate complex lab data analysis and exploring system security in Linux environments.

Lab Work & Academic Projects

> **Experimental Physics: Electron Diffraction**

Conducted experiments analyzing graphite diffraction patterns to determine lattice constants and understand wave-particle duality.

> Data compiled and formatted via Python (NumPy/Matplotlib) and LaTeX (TeXstudio/MiKTeX).

> **Experimental Physics: Ferromagnetic Hysteresis**

Measured and analyzed the magnetic properties of ferromagnetic materials to plot and interpret hysteresis loops.

> **Local Network & Security Exploration**

Configured WSL Ubuntu environments, implemented secure SSH key-based authentication, and currently maintaining a pruned XMR node for network privacy study.

Technical Skills & Tools

- **Programming**: Python, C
- **Typesetting**: LaTeX (Specialized in academic report formatting)
- **Systems & Tools**: Linux/WSL, Git, Command-line customization (Fastfetch/Neofetch)
- **Other Interests**: Cryptography, Sustainable Design (Biomimicry), Learning French