

Nilavra Ghosh

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TECHNICAL SKILLS

Programming Languages: Python (NumPy, Pandas), Studio Code, LaTeX, Jupyter Notebook
C/C++, JavaScript, SQL, Bash
Machine Learning & AI: PyTorch, TensorFlow, scikit-learn, OpenCV, ROS, Prompt Engineering
Web Development: React, Firebase (Firestore, Authentication), Tailwind CSS, Vite, Strapi, Clerk
Hardware Design & Simulation: Verilog-HDL, Xilinx Vivado, LTSpice, Magic VLSI, Ngspice, FPGA Prototyping
Software Tools & DevOps: Git, GitHub, Linux, Visual

EXPERIENCE

Summer Research Intern May 2025 – Present
IIT Bombay

- Leading the development of a beginner-friendly ML book in collaboration with researchers.
- bridging academic theory with practical applications and recent advancements.
- Planned and implemented 100+ Python-based tutorials using TensorFlow, PyTorch, and scikit-learn.

Undergraduate Research Student May 2025 – Present
Robotics Research Center (RRC), IIIT Hyderabad Under Dr. Spandan Roy

- Investigating reinforcement learning techniques for adaptive robotic control in dynamic environments.
- Working independently and presenting research on system stability and robustness in learning-based control.

Python Developer Intern April 2025
StrategicERP (Remote)

- Developed a user-focused CLI expense tracker in Python with budget tracking, summaries, and data persistence.
- Demonstrated time management, autonomy, and code clarity through modular design and regular progress updates.

PROJECTS

Theater Management System

- Built a DBMS for a multi-hall theater supporting 1,000+ bookings and staff records with optimized queries.

AI Code Review (MERN Stack)

- Designed a real-time item-matching web app that matched 100plus items with 85% accuracy using Firebase ML.
- Showcased skills in backend integration, UI design, and problem-solving through iterative improvements.

Lost & Found System – HackIIITH (React/Firebase)

- Designed a real-time item-matching web app using Firebase ML for image classification.
- Collaborated in a 2-member team during a 24-hour hackathon, applying agile teamwork and quick prototyping.

Terminal Strategy Game (Python)

- Engineered a real-time, terminal-based multiplayer game using Object Oriented Programming and NumPy.

AI Resume Builder

- Generated 50plus ATS-optimized resumes with a 95% success rate on basic ATS checks.
- Focused on user input simplification and effective layout generation to enhance accessibility.

ATS Checker using NLP

- Built an NLP-based ATS checker that analyzed 50plus resumes, helping users improve match rates by 30%.
- Communicated findings clearly with interactive UI and visual match score feedback.

SQL Data Warehouse

- Built a SQL-based data warehouse with star schema to organize and analyze large-scale transactional data.

EDUCATION

International Institute of Information Technology Hyderabad Hyderabad, India
B.Tech in Electronics and Communication Engineering 2023–Present
Jawahar Navodaya Vidyalaya Pondicherry, India
Class XII CBSE 2023