ADITI BARDHAN

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PROFESSIONAL SUMMARY

Fresher engineer with a B.E. in Electronics and Telecommunication and an M.Sc. in Cyber Security (NFSU Kolkata). Hands-on work in machine learning, computer vision, LLM applications, web security and IoT prototyping, with coursework in digital forensics and signal processing.

TECHNICAL SKILLS

- **Cyber Security and Forensics:** web application security, OWASP Top 10, XSS and SQL injection detection, network security, vulnerability assessment (CVE, CWE, CVSS), digital forensics, incident response, malware analysis, cloud and IoT forensics, Nmap, Burp Suite
- **AI/ML and Computer Vision:** machine learning, Random Forest, scikit-learn, NumPy, Pandas, OpenCV, NLP, LLM and generative AI workflows (LangGraph), deep learning fundamentals (M.Sc. coursework)
- **Signal Processing and Electronics:** electronics and telecommunication fundamentals, signals and systems, real-time image processing (B.E. coursework and Air Canvas project)
- **Programming and Web:** Python, C, Arduino C, JavaScript, TypeScript, SQL, Flask, REST APIs, Node.js, React, Next.js, MERN stack, PostgreSQL, MongoDB, Supabase, Git, Linux basics
- **IoT and Embedded:** NodeMCU, DHT11 and soil moisture sensors, water pump control, IoT and SCADA security (coursework)

EXPERIENCE

LangGraph and LLM Developer Intern (R&D), Vedh AI Labs Pvt. Ltd., New Delhi (Remote) May 2026 - Oct 2026

- Built AI-enabled applications and automation workflows in Python and JavaScript/TypeScript; integrated APIs and databases.
- Built a Next.js admin dashboard with AI diagnostics and security and abuse monitoring; wrote SQL queries against Supabase.
- Designed the security and governance layer (access control, encryption, audit logging) for a medical-imaging system patent specification.

Deputed Faculty (AI/ML using Python), NIELIT Kolkata, KV No. 2 Salt Lake Nov 2024

- Delivered a 30-hour programme for 44 students on Python, machine learning algorithms, data cleaning and practicals.

Computer Vision Intern, Bhargawa Info Tech Solutions / RV College of Engineering Sep 2023 - Nov 2023

- Built Air Canvas, a real-time hand-gesture virtual pen using Python and OpenCV, with draw and erase commands and a Flask API.

PROJECTS AND RESEARCH

- **XSS URL Detection Framework (M.Sc. project):** regex signature layer with URL canonicalization plus a Random Forest classifier; 96.6% accuracy, 100% recall and 11.5 ms per URL on a 500-URL test set; REST endpoint and desktop interface.
- **Research paper submitted, IEEE SCOPES 2027 (Paper ID 466), NIELIT Kolkata:** "A Hybrid Signature and Machine Learning Framework for XSS URL Detection under Obfuscation" (submitted, acceptance pending).
- **Intelligent Irrigation System (IoT prototype):** NodeMCU with DHT11 and soil moisture sensors programmed in Arduino C; a web server uses a Random Forest model to recommend a suitable crop, and a water pump waters the soil automatically.
- **Security Audit Report (Oct 2026):** assessed web security headers and session handling; findings rated with CWE and CVSS, with remediation steps.

EDUCATION

M.Sc. Cyber Security, National Forensic Sciences University, Kolkata 2024 - 2026
CGPA 7.76/10. Coursework: Digital Forensics, Incident Response, Network Security, Malware Analysis, Cloud Security and Forensics, IoT Security and Forensics, Artificial Intelligence.

B.E. Electronics and Telecommunication, RV College of Engineering, Bengaluru (VTU) 2020 - 2024
CGPA 7.44/10, First Class.

CERTIFICATIONS AND ACHIEVEMENTS

- Introduction to Cybersecurity, Cisco Networking Academy (2024); Full Stack Web Development (MERN), WebSkitters Academy (2026)
- The Joy of Computing using Python, NPTEL / IIT Madras (Elite, 81%); TryHackMe: Linux Fundamentals Part 1, Nmap
- Runner-Up Company, International Space Settlement Design Competition (NASA ISSDC); accepted into McKinsey Forward Program (2026)