

Subhadeep Mandal

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GitHub: github.com/Subhadeep-Mandal | LeetCode: leetcode.com/Subhadeep-Mandal | Location: Kolkata, India

Skills

- **Languages:** C++, Java, Python, JavaScript, C, SQL
- **CS Fundamentals:** Data Structures & Algorithms, Design & Analysis of Algorithms, Object-Oriented Programming, DBMS, Operating Systems, Computer Networks
- **Backend & Web:** FastAPI, Django, React.js, REST APIs, WebSockets
- **AI/ML:** TensorFlow, scikit-learn, YOLOv8, LSTM
- **Tools & Platforms:** Git, GitHub, Linux, Scapy, MongoDB

Coding Profile

- **LeetCode:** 200+ DSA problems solved in LeetCode and 500+ DSA problems solved across various other platforms.

Education

- Computer Science & Engineering | Narula Institute of Technology, Kolkata CGPA: 8.79 | 2023 – 2027
 - **Relevant Coursework:** Data Structures & Algorithms, Design & Analysis of Algorithms, Object-Oriented Programming, Database Management Systems, Operating Systems, Computer Networks
- XII (WBCHSE) | Science (PCM + Computer Science) | RKVM Vidyabhawan, Barrackpore 77.8% | 2023
- X (WBBSE) | RKVM Gopal Govinda Academy, Barrackpore 81.40% | 2021

Projects

- **ReproSense – Real-Time Surveillance & Geospatial Intelligence System** | C++, Python, FastAPI, React, YOLOv8, ByteTrack
GitHub: <https://github.com/Subhadeep-Mandal/Repro-Sense>
 - Engineered a real-time video-analytics system with a **FastAPI backend** and React dashboard, connected over **REST APIs and WebSockets** for continuous live data streaming.
 - Built **CrimeDetector**, a multi-camera tracking pipeline using YOLOv8 for detection and OSNet Re-ID for cross-camera suspect re-identification.
 - Designed **GeoVision**, a geospatial module translating tracking output into escape-route analysis and deployment optimization.
- **FireBarrier – Real-Time Network Intrusion Detection System** | FastAPI, Scapy, TensorFlow, scikit-learn
GitHub: <https://github.com/Subhadeep-Mandal/Fire-Barrier-AI-Firewall>
 - Built a **4-layer threat-detection pipeline** on a FastAPI backend, combining packet-level inspection (Scapy), rule-based pattern matching, and an LSTM-based anomaly-detection layer.
 - Automated IP blocking on detected threats, achieving under **2-second response time** for critical alerts.
 - Detected **7+ attack types** including DDoS, SQL injection, XSS, and malware through combined signature- and anomaly-based analysis.
- **AgroHelp – Farmer Assistance Web Application** | Django, Streamlit, TensorFlow
GitHub: <https://github.com/Subhadeep-Mandal/The-Farmers-Left-Hand>
 - Built a full-stack web application with a TensorFlow-based image-classification model for **plant-disease detection**, with an accessible Streamlit interface that improved user engagement by **20%**.

Certifications

- Network Addressing and Basic Troubleshooting | Cisco July 2025
- SAP ABAP – Backend Development Certification | SAP September 2026
- Google Cloud Skill Boost Champion Milestone | Google Cloud December 2024

Achievements

- Finalist, HackONit Hackathon 2024, 2026 May 2024, April 2026
 - Competed among 50 teams in an overnight software development hackathon.
- Smart India Hackathon (SIH) - Finalist 2025
 - Selected to represent Narula Institute of Technology at the national-level hackathon.