

UPWAN SINGH

📞 +91-9455807373 ✉ upwan.2428cseaiml135@kiet.edu [in linkedin.com/in/upwan-singh](https://www.linkedin.com/in/upwan-singh) github.com/upwan8152

Education

Bachelor of Technology (B.Tech) – Computer Science Engineering (AI & ML)

2024 – 2028

KIET Group of Institutions, Ghaziabad

CGPA: 7.82 / 10

Class XII – ICSE Board

2023

Children College, Azamgarh

Score: 85.8%

Class X – ICSE Board

2021

Children College, Azamgarh

Score: 95.3%

Technical Skills

Programming Languages: Swift, Java, Python, C, SQL

Data Structures & Algorithms: Solved **400+** problems across arrays, strings, linked lists, stacks, queues, trees, graphs, recursion, dynamic programming, greedy algorithms, hashing, sorting, and searching

iOS Engineering: SwiftUI, UIKit, MVVM, Combine, CoreData, CoreBluetooth, Multipeer Connectivity

Systems Concepts: Peer-to-peer communication, offline-first design, mesh networking fundamentals, encryption workflows

Machine Learning: NumPy, Pandas, Scikit-learn, regression, classification, clustering, exploratory data analysis

Tools: Xcode, Git, GitHub

Projects

NoxRail — Secure Offline Mesh Communication Platform (iOS)

- Architected and developed a **large-scale, production-grade iOS application** enabling secure messaging without internet, servers, phone numbers, or accounts.
- Implemented Bluetooth LE-based peer discovery and multi-hop message relay to form a local mesh network between nearby devices.
- Designed end-to-end encrypted communication using Signal-style cryptographic principles (X3DH-style key agreement and Double Ratchet concepts).
- Built a decentralized identity and trust model using Secure Enclave-backed keys and QR-based contact verification.
- Engineered adaptive BLE transport with message fragmentation, reassembly, and battery-aware scanning strategies.
- **Website:** <https://noxrail.com>

Monastery360 — Immersive Exploration App (iOS Prototype)

- Designed a SwiftUI-based prototype for exploring 200+ locations with clean MVVM architecture and scalable navigation.
- Prototyped AR-based exploration experiences using ARKit, focusing on user experience and rendering performance.

Certifications

- AWS Certified Cloud Practitioner (CLF-C02) — 2025