

UPWAN SINGH

+91-9455807373 | upwan.2428cseaiml135@kiet.edu | linkedin.com/in/upwan-singh | github.com/upwan8152

Education

Bachelor of Technology (B.Tech) – Computer Science Engineering (AI & ML)	2024 – 2028
<i>KIET Group of Institutions, Ghaziabad</i>	<i>CGPA: 7.82 / 10</i>
Class XII – ICSE Board	2023
<i>Children College, Azamgarh</i>	<i>Score: 85.8%</i>
Class X – ICSE Board	2021
<i>Children College, Azamgarh</i>	<i>Score: 95.3%</i>

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