

# NIRANJAN S BINU

Full Stack Developer · Web3 & Blockchain Engineer · AI/ML Specialist

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## PROFESSIONAL SUMMARY

Full Stack & Web3 Developer building decentralized systems at Alkimi across Ethereum and SUI blockchains. Engineered AI-powered smart contract security tooling, Merkle-proof reward infrastructure, and real-time ML fraud detection models. Holds 9 industry certifications including AWS Cloud Practitioner, Google Cybersecurity, and 4 Anthropic AI certifications.

## PROFESSIONAL EXPERIENCE

### Alkimi

Aug 2025 – Present

#### Web3 Full Stack Developer (Intern → Full-Time, Jan 2026)

- Architected full-stack DApp modules integrating Ethereum smart contracts with a Next.js/TypeScript frontend, cutting manual contract interaction time by 40% through elimination of intermediary tooling.
- Engineered smart contract integration layers connecting on-chain state to real-time frontend dashboards, serving 100K+ live users on mainnet.
- Spearheaded decentralized system architecture components powering Alkimi's Web3 advertising protocol, driving a 25% improvement in protocol throughput.
- Accelerated delivery of 3 major feature releases in 5 months by driving cross-functional alignment between protocol and product teams, earning promotion from intern to full-time.
- Standardized TypeScript + TailwindCSS frontend conventions across the DApp codebase, reducing onboarding time for new engineers by 30%.

### Itraitz IT Solutions, Trivandrum

Aug 2023 – Sep 2023

#### Data Science Intern

- Developed end-to-end ML pipelines using XGBoost and Scikit-learn on blockchain transaction datasets, achieving 98% accuracy in anomaly classification.
- Automated data extraction from 3 sources using BeautifulSoup and Scrapy, feeding a PostgreSQL warehouse that powered daily analytics across the team.
- Designed and deployed Airflow DAGs for near real-time data ingestion, slashing pipeline latency by 96% — from 24-hour batch cycles to sub-hourly processing.
- Administered a cryptographic hashing verification layer in Python to validate scraped data integrity, eliminating corrupt records and directly applying blockchain security principles.

## TECHNICAL SKILLS

**Blockchain** Solidity, Ethereum, EVM, SUI (Move), Smart Contracts, Hardhat, Merkle Trees, MetaMask, Remix IDE, Ganache, DApps, Wagmi

**AI / ML** Python, OpenAI API (GPT-5), Scikit-learn, XGBoost, Random Forest, NLP, SMOTE, Fraud Detection, Generative AI, LLM Integration

**Frontend** Next.js, React, TypeScript, TailwindCSS, Wagmi, Web3.js, Axios

**Backend** Node.js, Flask, FastAPI, REST APIs, Cron, Apache Airflow

**Cloud & DevOps** AWS (EC2, S3, Lambda), Google Cloud Platform, Docker, Git/GitHub, Vercel, Netlify

**Databases** PostgreSQL, MySQL, MongoDB

**Security** Smart Contract Auditing, Reentrancy/Overflow Mitigation, Cryptographic Hashing, SIEM, Intrusion Detection, Packet Analysis

## FEATURED PROJECTS

### AI Security for Blockchain

Next.js · TypeScript · Solidity · OpenAI API (GPT-5) · Ethereum · Sepolia

- Built an intelligent smart contract analyzer detecting reentrancy, overflow, and access control vulnerabilities using GPT-5-nano via OpenAI Responses API.

- ▶ Delivered structured JSON security reports with risk severity levels and fix recommendations, accelerating manual audit time by 3x.
- ▶ Deployed on Sepolia testnet with MetaMask wallet integration, empowering developers with a real-time frontend analysis dashboard.

[github.com/nirxnjxnCodeS/AI-security-for-blockchain](https://github.com/nirxnjxnCodeS/AI-security-for-blockchain)

### Merkle Tree Reward System (Prod-Level)

Solidity · Hardhat · Ethereum · Merkle Trees · ERC20

- ▶ Engineered a production-grade Merkle proof-based reward distribution system for a custom ERC token, reducing gas costs by 60% through on-chain whitelist verification at scale.
- ▶ Implemented full staking lifecycle — token minting, Merkle root anchoring, cryptographic claim verification — achieving zero unauthorized claims across 10,000+ test transactions.

[github.com/nirxnjxnCodeS/MerkleTree-based-reward-system](https://github.com/nirxnjxnCodeS/MerkleTree-based-reward-system)

### SUI Token Generation & Hard Staking Contracts

SUI · Move · Smart Contracts · Blockchain

- ▶ Designed and deployed token generation and hard staking smart contracts on the SUI blockchain using Move, positioning as one of a small group of developers with live production SUI Move deployments.
- ▶ Implemented a hard staking system with configurable lock periods, reward emission schedules, and secure unstaking logic, supporting 5+ configurable reward tiers.

[github.com/nirxnjxnCodeS/Token-Generation-and-Hardstaking](https://github.com/nirxnjxnCodeS/Token-Generation-and-Hardstaking)

### UPI Fraud Detection & Protection System

Python · ML · Flask · AWS EC2 · Blockchain

- ▶ Trained a hybrid ensemble model (Logistic Regression + Random Forest + SVM + Decision Tree) with SMOTE oversampling, achieving 98.8% accuracy on severely imbalanced UPI transaction data.
- ▶ Integrated a blockchain audit trail for tamper-proof transaction logging, deployed on AWS EC2 with a Flask monitoring dashboard handling real-time fraud alerts.

[github.com/nirxnjxnCodeS/UPI-Fraud-Detection-using-AI](https://github.com/nirxnjxnCodeS/UPI-Fraud-Detection-using-AI)

### ATS-Based Resume Analyser

Python · AI · NLP · LLM

- ▶ Developed an AI-powered ATS resume scoring engine using LLM-based NLP to parse resumes against job descriptions, delivering keyword gap analysis that improved applicant match rates by 35%.

[github.com/nirxnjxnCodeS/ATS-Based-Resume-Analyser](https://github.com/nirxnjxnCodeS/ATS-Based-Resume-Analyser)

## EDUCATION

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### Amity University

2025 – Present

[M.Sc. Data Science & Generative AI](#)

Specializing in advanced ML, neural networks, and generative AI applications.

### Vellore Institute of Technology (VIT)

2021 – 2025

[B.Tech Computer Science & Engineering](#)

Focus: Blockchain systems, cryptography, distributed computing, data structures & algorithms.

## CERTIFICATIONS

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- ▶ **Introduction to Model Context Protocol** — Anthropic Mar 2026
- ▶ **Introduction to Agent Skills** — Anthropic Mar 2026
- ▶ **Claude Code in Action** — Anthropic Mar 2026
- ▶ **Building with the Claude API** — Anthropic Mar 2026
- ▶ **AWS Certified Cloud Practitioner** — Amazon Web Services Jan 2023
- ▶ **Google Cybersecurity Professional Certificate** — Google Dec 2023
- ▶ **AWS Academy Cloud Foundations** — Amazon Web Services Oct 2023
- ▶ **Google Cloud Arcade** — Google Cloud Skills Boost 2023
- ▶ **Ethical Hacking** — Internshala Aug 2023