NIHAL PANDEY

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SUMMARY

Motivated engineering student specializing in Blockchain Protocol and Security Engineering. Passionate about developing robust enterprise blockchain solutions with hands-on experience in Rust, EVM data indexing, and cybersecurity research. Seeking opportunities to contribute to cutting-edge blockchain infrastructure and smart contract platforms.

EXPERIENCE

Cybersecurity Research Intern   *June 2025 - September 2025*
Prime Minister's Office (PMO), Government of India   *New Delhi, India*

- Conducted threat intelligence analysis and performed adversarial simulations (red team exercises) to proactively identify vulnerabilities in critical digital infrastructure.
- *Further project details are confidential under a Non-Disclosure Agreement (NDA).*

TECHNICAL SKILLS

- **Programming Languages:** Rust, Python, C++, Solidity, JavaScript, SQL, Bash
- **Blockchain & Web3:** Ethereum (EVM, JSON-RPC), Smart Contract Development, libp2p (conceptual), Hyperledger, Soroban, Stellar, Andromeda (aOS), EVM-compatible chains
- **Backend & DevOps:** Docker, PostgreSQL, AWS, GitHub Actions, REST APIs, Tokio, Axum, SQLx
- **Web Development:** MERN Stack (MongoDB, Express.js, React.js, Node.js)
- **Tools & Networking:** Git, Nmap, Wireshark

PROJECTS

EVM Indexer in Rust   *Personal Project*
Tech Stack: Rust, Tokio, ethers-rs, Axum, SQLx, PostgreSQL | 🔗 GitHub

- Developed a high-performance EVM historical data ingester and query API, focusing on Rust best practices for asynchronous systems.
- Engineered the system to efficiently ingest and store blocks, transactions, and event logs from an Ethereum node into PostgreSQL.
- Built a RESTful API for querying data, including paginated log querying with filters (block range, address, topics).

A.R.I.A. (Automated RWA Intelligence)   *aOS Andromeda Hackathon Winner*
Tech Stack: CosmWasm (Rust), Python, Flask, React, Google Gemini API, aOS | 🔗 GitHub

- Architected an AI-powered platform to verify real-world documents and mint them as composable RWA NFTs.
- Integrated Google Gemini Pro for deep document analysis and QR code cross-verification to ensure authenticity.
- Engineered a fully on-chain, automated revenue model by composing multiple Andromeda ADOs (Marketplace → Splitter → Staking).

Agentless Windows Vulnerability Scanner   *Smart India Hackathon 2024*
Tech Stack: Python, PowerShell, Nmap, Wireshark, SQLite | *(Govt. project - NDA)*

- Developed a web-based scanner leveraging Python and PowerShell to identify vulnerabilities on Windows systems without agent installation.
- Automated security analysis and generation of detailed PDF/HTML reports, reducing manual work by 80%.

AWARDS & ACHIEVEMENTS

- **Winner** — aOS Andromeda Hackathon (2025) — 1st out of 2500+ teams   *Prize: USD 2,500*
- **Winner** — Smart India Hackathon 2024 (NTRO, Govt. of India)   *Prize: INR 100K*
- **Winner** — Graph-e-thon 2.0 (TBI, Graphic Era) (2024)   *Prize: INR 175K*
- **3rd Place** — Blockchain Track, IEEE Sustainability Solution Hackathon (2024)
- **Finalist** — M&G Global AI Innovate Hackathon 2024
- **Top 100 National Finalist** — Cisco–NASSCOM Foundation ThingQbator Cohort-6 (2023)

EDUCATION

Rajiv Gandhi Institute of Petroleum Technology, India   *2022 – 2026 (expected)*
Electronics Engineering

St. Joseph's Academy, India   *2018 – 2021*
ISC (Class XII), Aggregate: 88% | *ICSE (Class X), Aggregate: 90.4%*