

Subhajit Chaudhury

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PROJECTS

- **Vimgram — CLI Telegram Client:** A high-performance Vim-inspired terminal Telegram client with modal navigation and real-time message streaming. Designed for keyboard-first workflows with secure local sessions and minimal UI. **Tech:** Rust, Tokio, MTPROTO (Grammers), TUI.
- **GitWatch — GitHub Notifications Bot:** A Telegram bot that lets users subscribe to GitHub repositories and receive real-time notifications for issues, pull requests, comments, and commits directly in chat. **Tech:** TypeScript, Next.js, PostgreSQL, Prisma, Telegram Bot API.
- **Xandem pNode Analytics Dashboard:** A real-time analytics dashboard for the Xandem pNode network featuring node health monitoring, historical metrics, staking insights, and global network statistics. **Tech:** Next.js, TypeScript, Tailwind CSS, Redis, Supabase, Solana RPC.
- **CVE-2025-55182 — React2Shell:** A proof-of-concept exploit demonstrating remote code execution in React Server Components and Next.js, highlighting unsafe server action handling and trust boundary violations. **Tech:** TypeScript, Next.js, Security Research.
- **PolyShark — Polymarket Mispricing Bot:** A trading bot designed to detect logical mispricing and arbitrage opportunities across linked Polymarket prediction markets. **Tech:** TypeScript, Market APIs, Trading Logic.
- **The American Bank Exploit:** An educational exploit demonstrating how a crafted base64-encoded transaction can drain funds by abusing program IDL and binary trust assumptions. **Tech:** TypeScript, Solana, Anchor IDL.
- **ANUBIS — Asynchronous Event Engine:** A high-throughput asynchronous event processing engine built to explore concurrency, parallelism, and safe shared-state handling under load. **Tech:** Rust, Async/Await, Concurrency Primitives.
- **Stackshow — Movie Recommendation App:** An Android application that recommends movies based on user preferences, featuring a clean UI and dynamic content fetching. **Tech:** Android, Kotlin, REST APIs.
- **Odin — Solana Transaction Log gRPC Service:** A high-performance Rust-based gRPC service for fetching, parsing, and streaming Solana transaction logs. Supports filtered log retrieval, real-time streaming, and per-program compute unit tracking. **Tech:** Rust, gRPC, WebSockets, Solana.
- **Gotham — zkPassport + zkCensus:** A privacy-first identity system enabling users to prove uniqueness and citizenship without revealing personal data using zero-knowledge proofs. **Tech:** Swift, Solana, Rust, ZK-SNARKs, Node.js.
- **Cerberus Protocol — On-Chain Permission Primitive:** A reusable on-chain permission and controlled distribution primitive for Solana programs, designed to be composable across decentralized applications. **Tech:** Solana, Rust, Anchor.
- **ZKKit — Zero-Knowledge Workflow Toolkit:** A modular developer toolkit for end-to-end ZK proof generation including circuit compilation, trusted setup, witness generation, proving, and verification. **Tech:** TypeScript, Circom, Groth16, Node.js.
- **Chain Simulator — Blockchain Implementation:** A blockchain built from scratch to explore block creation, proof-of-work mining, transaction chaining, and basic consensus rules. **Tech:** Rust.
- **MerkleDrive — Verifiable Storage System:** A cryptographically verifiable storage system using Merkle trees with file chunking, hashing, and root verification. **Tech:** Rust, SHA-256.
- **StreamSync — Live Video Sync Engine:** A real-time synchronization engine enabling multiple users to watch videos together with deterministic playback coordination. **Tech:** TypeScript, WebRTC, Socket.io, Express.
- **AMM Sandbox:** A learning playground for Automated Market Makers implementing constant-product AMM logic, swaps, LP mechanics, and slippage visualization. **Tech:** TypeScript, React.

SKILLS

- **Languages:** Rust, TypeScript, Swift, Python, C++, Go
- **Blockchain & Web3:** Solana, Anchor, Solana Web3.js
- **Frontend:** React.js, Next.js, Tailwind CSS, SwiftUI
- **Backend:** Axum, Bun.js
- **Databases:** PostgreSQL, MongoDB, Redis
- **DevOps & Cloud:** Docker, AWS, Nginx

EDUCATION

- **Bachelor of Technology (B.Tech) — Computer Science :** Enrolled 2023 – 2025.
- **Senior Secondary (Class XII) — PCM:** Physics, Chemistry, Mathematics. Appeared for board examinations in 2023.