

Oluwatobiloba "Tobi" Aribio

Software Engineer · AI Systems Builder · Founder

325-439-8422 · tobiaribo@icloud.com · tobiverse.com · github.com/tobidontplay

I build software that keeps working after I walk away from the keyboard. Founder of two startups built end to end: an AI growth engine that finds and researches leads on its own, and the booking platform it feeds into. I have written smart contracts that move real money on Solana, trained models that generate art and forecast floods, and lately I am most interested in AI workflows, systems that take a task a person used to grind through by hand and hand back a finished draft, a scored lead, or a decision someone can approve in ten seconds instead of an hour.

Every project below has a full architecture breakdown, live demo, and source trail at tobiverse.com, an interactive 3D portfolio operating system I designed and built myself. Every entry on it carries an honesty label too, production, working demo, simulation, or blueprint, so nobody has to guess how real something is. Worth opening before you finish reading this page.

TECHNICAL SKILLS

- **AI & Automation:** local LLM inference (Ollama, Mistral), prompt engineering, TensorFlow.js, StyleGAN, Playwright browser automation, human-in-the-loop review pipelines, AWS SageMaker
- **Languages:** JavaScript/TypeScript, Rust, Python, Java, Solidity
- **Frontend:** React, Next.js (TanStack Start), Three.js, WebGL, Tailwind CSS, Vite
- **Backend:** Node.js, Express, PostgreSQL, Supabase (with RLS), Prisma, Redis, Socket.io, SQLite
- **Blockchain:** Solana (Anchor, PDAs), Ethereum (ERC-721, Hardhat), ethers.js, Phantom wallet
- **Security & Systems Research:** post-quantum cryptography, zero-knowledge protocols, finite-state validation, deception architecture, evidence provenance modeling
- **Cloud & Infra:** AWS (EC2, S3, Lambda), Vercel, Stripe, Twilio, Mapbox, D3, PostGIS, Git, CI/CD

FEATURED SYSTEMS

Trinity, AI Growth Engine (Production)

Python · Ollama · Playwright · SQLite

- Built a local-first AI system that scans public signals, maps, reviews, complaints, directories, and stores every source (URL, excerpt, capture time) in a SQLite evidence ledger before a word of outreach gets drafted.
- Runs on-device reasoning through Ollama and Mistral, zero cloud API calls, across five stages: ALADDIN for multi-source lead discovery, SIREN for classifying which complaints and reviews are worth a human's time, and a paced Playwright layer for evidence gathering.
- The last two stages are GENESIS, which drafts strategy locally, and OPERATOR, the human checkpoint: a person reviews, edits, and physically sends every message. Nothing gets auto-posted, ever.
- Closed the loop with a correlation ID that ties real outcomes back to the original lead, so the system learns from what actually converted, never from a guess, and wired the whole thing into Lineup so qualified opportunities flow straight into booking and payment.

Lineup, SaaS Booking Platform (Production)

Next.js (TanStack Start) · Supabase · Stripe · Twilio

- Founded and built a subscription booking platform for barbershops from the ground up: pricing tiers, go-to-market, and every line of code.
- Engineered a real availability engine that resolves staff schedules, shop hours, blocked time, service duration, and time zones simultaneously. Not a calendar widget, an actual multi-constraint solver.
- Kept payment request, client verification, and barber confirmation as three separate states so a booking never silently becomes a charge, with Stripe billing and automatic suspension on failure.
- Runs five lifecycle stages end to end, from a public guest entering with zero account required through subscription, retention, and churn as fully queryable product state, not a guess.

SolArena, On-Chain Prediction Market (In Progress)

Rust · Anchor · Solana · Next.js · Supabase

- Solo-built a parimutuel prediction market on Solana: four Anchor smart contracts (create_market, place_bet, resolve_market, claim_payout) with a 2% protocol fee and PDA vaults holding funds with zero centralized custody.
- Enforced every rule on-chain: stakes accepted only while the market is open and before the deadline, amount validated before custody, and resolution mode (oracle vs arbiter) locked to the bet so each resolve path refuses the other's markets, and missing oracle config fails loudly instead of guessing.
- Shipped the full frontend too: live odds that shift as bets land, a real-time feed via Supabase Realtime, and full Phantom wallet integration with transaction signing.

Also built: FloodSpy, a civic flood-intelligence platform turning sensor data, historical patterns, and forecasts into location-aware alerts on a Mapbox, D3, and PostGIS map. NeuralNFT, an AI-assisted NFT marketplace running generated artwork through metadata and a mint boundary behind ERC-721 contracts, honest about the chain boundary the whole way through. Shayo, a narrow-screen-first commerce app where a single CartProvider keeps purchase state alive across every route. D-Frames, an order-operations platform with a real Employee Portal for role-based access and queryable delivery tracking, not just status badges. Full write-ups on all of it at tobiverse.com.

SYSTEMS RESEARCH (BLUEPRINTS)

Every project on the site is labeled by exactly how real it is: production, working demo, simulation, or blueprint, so nobody has to guess. These are blueprints, reasoned through and designed but not yet built, and every one of them extends a real question that first showed up in Trinity or Lineup. I would rather say that plainly than let a demo imply otherwise.

- **Neuromancer OS:** an air-gapped local-inference vault that extends Trinity's real Ollama-first drafting stance, with a hard fail-closed rule: if local inference breaks, it falls back to deterministic, reviewable copy instead of silently spilling to the cloud.
- **Genesis Loss Landscape:** a visual model of how real Lineup lifecycle outcomes could eventually teach Trinity's Genesis stage which strategies are worth repeating, deliberately prediction-gated so it never claims more confidence than the data actually supports.
- **Evidence Library:** a spatial archive of sources, passages, edits, and outcomes built directly on Trinity's real evidence vocabulary, on the rule that a confident claim never counts as proof on its own.
- **Evidence Provenance Lab:** a working demo where every AI-generated statement has to point at the exact evidence passage backing it or it's marked unsupported, running on Trinity's real evidence_passages table and review workflow, not a simulated one.
- **Token Tarpit Quarantine:** a security simulation of the exact pacing, challenge, and operator-pause logic Trinity actually uses when a source starts degrading, modeled as a finite containment machine that touches zero production systems.
- **Lattice Handshake:** a post-quantum key exchange study mapped directly onto real auth boundaries already running in the systems, Lineup's cronAuthorized bearer tokens and the Trinity-to-Lineup funnel token, a forward comparison, not a current claim.
- **Zero-Knowledge Scheduling:** a privacy-preserving booking handshake built on top of Lineup's real availability model, asking how much availability you can prove without exposing a private calendar.
- **Phantom Schema Proxy:** a deception boundary layer grounded in Lineup's real server-only, token-protected preview routes, designed to answer untrusted requests with safe synthetic data instead of the real thing.
- **FSM Logit Mask:** a state-machine study of constraining AI generation before it happens, built as the logical next step past the after-the-fact review and validation Trinity and Lineup actually run today.
- **BPE Shatter Lab:** an educational tokenizer chamber showing how the evidence and prompts running through Trinity's local pipeline actually become model input, deterministic by design and not claiming to match any specific tokenizer exactly.
- **Git-Blame City:** a procedural 3D city generated from real commit history across the portfolio, Trinity, and Lineup repositories, where every building resolves back to an actual commit, my own build history, rendered.

WORK EXPERIENCE

Media Department Assistant, Hardin Simmons University · 2024 to Dec 2025

- Shot and produced photography and video for university events, marketing campaigns, and institutional communications, then carried it through post in Premiere and Lightroom.
- Flew drone coverage and ran full AV infrastructure for large campus events. No retakes, no room for the feed to drop.

Website Manager, The Brand, HSU Student Newspaper · 2023 to 2024

- Owned the WordPress platform end to end and kept it live on deadline, every issue.
- Redesigned navigation and engagement features that measurably increased time on site.

EDUCATION

B.S. Computer Science, Minor in Cybersecurity

Hardin Simmons University, currently enrolled. Honors Program, President's Scholar.