

ABHEEK TRIPATHY

Rust & Distributed Systems Engineer

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SUMMARY

I build real-time systems for onchain markets. At Avail, I currently work with the privacy perps and cross-chain aggregation teams, building production systems for both. Previously, I spent most of my time on the DA and bridge teams.

EXPERIENCE

Avail | Protocol Engineer

2023 - Present | Remote

Nightshade protocol

- Built the rust solver for sub-second intent confirmation and architected the orchestrator for Nightshade's private perps protocol on Hyperliquid. The services pull intents, manage Privy accounts, bound concurrency, persist stages, request attestations, and recover unfinished trades.
- Built a WebSocket-first Hyperliquid ledger pipeline with REST gap reconciliation, handling reconnects, duplicates, delayed events, and restarts.
- Added a redb-backed outbox and HMAC-signed webhooks so funding outcomes survive restarts; ledger checks prevent duplicate money movement. Measured 163 intents end to end, with SigNoz alerts for stuck work.
- Built a Rust E2E CLI that boots Anvil/Postgres and the protocol stack, provisions Privy wallets, opens and closes positions through orchestrator APIs, and tracks settlement.

Nexus V2

- Built TypeScript middleware and SDK-facing APIs that resolve balances and providers from a user action, estimate fees and gas, and return multi-leg routes with sponsored ERC-20 approvals and status tracking.
- Made it operable with E2E hammer and multi-source tests, typed HTTP errors, and OTel/SigNoz telemetry.
- Worked with the integrations team to write partner solution docs, ship demo UIs, and run technical workshops; examples include the SyncSwap solution doc and Aave demos.

Avail Bridge

- Built a liquidity-backed Avail-Ethereum bridge backend with automatic rebalancing, retry/recovery, and destination checks, reducing transfers from roughly three hours to seconds. Led the ZK bridge UI for a bridge that processed over 1.9B AVAIL.

Launch sites and Unification Drop

- Built Avail's mainnet and token-launch sites and the 2024 Unification Drop claim UI and Node.js/MongoDB backend. Recorded 2.2M visitors and 6.1M page views; kept claims duplicate-safe with unique records, Mongo-backed sessions, and a retry cache.

Polygon Labs | Frontend Contractor

2023

- Built an end-to-end course-hosting platform in Next.js, with Strapi as the content management system.

The Honeynet Project | Google Summer of Code Contributor

2023

- Selected for GSoC 2023 to build BuffaLogs authentication, its Next.js dashboard, landing page, and API integration; added IntelOwl's cross-page first-visit guide.

TECHNICAL EXPERTISE

Languages	Rust, TypeScript
Real-time systems	Tokio, WebSockets, REST/JSON-RPC, async/concurrency, event correlation, queues/backpressure, retries, idempotency, durable state, recovery
Data / infrastructure	PostgreSQL, redb, OpenTelemetry, SigNoz, Docker, GitHub Actions

PROJECTS / OPEN SOURCE

- HotKeys: founded a Solana licensing product for Grizzlython 2023; led product, design, web, and tooling.
- Avail Web Light Client: browser light client with local KZG proof verification.
- Avail engineering toolkit: reusable Rust and TypeScript OpenTelemetry utilities.
- IntelOwl and Safe: frontend work before GSoC and merged Safe transaction-detail and wallet-upgrade PRs.

EDUCATION

Bennett University | B.Tech, Computer Science | CGPA 8.03/10

2021 - 2025