

PROJECTS

Routr - Non-custodial stablecoin payments app

getroutr.com

- Built end-to-end and deployed on Arbitrum + Ethereum mainnet: Next.js 14, TypeScript, Tailwind, Supabase (Postgres + RLS), wagmi v2 + viem, RainbowKit v2
- Sign-In With Ethereum (SIWE / EIP-4361): server-issued nonces, signature verification, iron-session auth - no email, no password
- On-chain payment verification: backend decodes ERC-20 Transfer event logs against expected token, sender, recipient, and value
- Username claiming via atomic SECURITY DEFINER Postgres RPC with race-condition protection
- Security: origin allowlist (CSRF), sliding-window rate limiting, Zod + viem validation, strict CSP/HSTS, RLS with anon role denied, UNIQUE(tx_hash) idempotency, hashed-IP audit log

Hyperliquid Market Data Pipeline - Low-latency WebSocket feed in Rust

- Streams and normalises real-time order book and trade data from Hyperliquid's WebSocket API for downstream strategy consumption
- Async Tokio runtime, Serde for zero-copy deserialisation; targets sub-millisecond processing latency

Algorithmic Trading Systems - Market making & Polymarket binary-options bot

- Market-making bot: spread-based quoting, inventory management, and position limits across CEX APIs
- Polymarket bot: Black-Scholes-derived probability pricing against on-chain CLOBs; evaluates edge vs. implied probability before placing
- Python, NumPy, Pandas for signal computation and backtesting

Work Experience

JP Morgan Chase · Glasgow

July 2025

- Technology work experience at the Glasgow JPMC engineering office; exposure to enterprise software practices and team delivery

KPMG · Glasgow

December 2025

- Audit & advisory work experience; collaborative problem-solving, presented findings to senior staff panel

SKILLS

Languages : Python, Rust, Solidity, Typescript, SQL

Blockchain / Web3: Solidity, viem, wagmi, ethers.js, SIWE/EIP-4361, ERC-20, Arbitrum, Ethereum

Backend / DB: Next.js 14, Supabase (Postgres + RLS), iron-session, Zod

Data / Quant: NumPy, Pandas, Matplotlib, Black-Scholes pricing, market microstructure

Tools: Git, Tokio, WebSocket APIs

Education

Higher Qualifications (predicted):

2026

Mathematics A · Computer Science A · Business Management A · English A · Physical Education A

National 5 Qualifications:

2025

Mathematics A · Applied Mathematics A · Computing Science A · Spanish A · PE A · Chemistry B · Business Management B · English B