

Brock Benton

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EDUCATION

University of Colorado Boulder

Boulder, CO

B.A. in Computer Science (GPA: 3.94)

Expected May 2028

- *Honors:* Boettcher Scholar, Undergraduate Enrichment Program, Engineering Honors Program
- *Clubs:* CU Blockchain Club (President), CS Undergraduate Advising Committee (Head Chair)
- *Relevant Coursework:* Software Development, Algorithms, System Architecture, Database Systems

WORK EXPERIENCE

Software Engineer Intern

May 2026 – Aug. 2026

Gemini

New York City, NY

- Designed and led the creation of a new onchain compliance enforcement service, defining the threat model and phased rollout strategy before implementation
- Owned end-to-end engineering scoping, breaking the project into actionable milestones and implementation tickets
- Built a low-latency gRPC service that reconciles risk signals for onchain addresses, merging internal and external vendor results into a unified risk verdict
- Architected a Kafka-driven asynchronous completion engine that ensures required post-transfer compliance obligations reach a terminal state through Redis-based leader election
- Instrumented structured Datadog metrics and built companion dashboards with no-data and threshold monitors to enable staleness alerting

PROJECTS

OAP: Onchain Attendance Protocol | *Solidity, Foundry, TypeScript, Base*

Mar. 2026 – Present

- Built a soulbound ERC-1155 attendance protocol on Base, replacing sign-in forms with onchain attendance proofs
- Wrote the registry contract with OpenZeppelin AccessControl roles and soulbound transfer locks; 45 Foundry tests
- Designed anti-spoofing check-in via time-boxed, admin-signed QR payloads verified before any mint is queued
- Engineered a gasless BullMQ mint relay with idempotent, chain-reconciling jobs; Privy for passkey login
- Shipped attendance tiers and semester rollups on PostgreSQL/Prisma, with rate limiting and GitHub Actions CI

Base Bets: Onchain Escrow (MBC Hackathon) | *Solidity, OnchainKit, CDP Paymaster, Base*

Dec. 2025

- Led smart contract development for a P2P USDC escrow on Base that auto-settles on Polymarket outcomes
- Integrated Coinbase Smart Wallet (ERC-4337) and CDP Paymaster via OnchainKit for gasless, USDC-only UX
- Implemented escrow lifecycle with batch resolution, 7-day timeout refunds, ReentrancyGuard, and SafeERC20
- Designed a Polymarket Gamma API oracle whose resolver triggers settlement but cannot redirect escrowed funds
- Tracked per-user win/loss stats onchain to power a live leaderboard; deployed the contracts to Base Sepolia

Proof-of-Work Blockchain Node | *C++17, TCP Sockets, Multi-threading*

Nov. 2025

- Built a proof-of-work blockchain from scratch with SHA-256 mining and adjustable difficulty
- Implemented a P2P network over TCP with multi-threaded peer handlers and mutex-protected chain state
- Achieved Nakamoto consensus via longest-chain fork resolution, with Merkle roots for tamper detection
- Added full-chain validation and JSON persistence so nodes detect tampered blocks when reloading saved state

Self-Hosted Git Platform with CI/CD | *Docker, Nginx, PostgreSQL, Python*

Nov. 2025

- Migrated a bare SSH Git server to a Docker Compose stack of Gitea, PostgreSQL, and an Nginx reverse proxy
- Configured TLS 1.2/1.3 termination, HTTPS redirects, WebSocket proxying, Ed25519 SSH keys, and UFW rules
- Built push-triggered CI with Gitea Actions and a Python webhook listener verifying HMAC-SHA256 signatures

TECHNICAL SKILLS

Languages: C++, Python, TypeScript, Solidity, Scala, SQL

Blockchain: Base, ERC-4337, ERC-1155, Foundry, Hardhat, OpenZeppelin, viem, wagmi, OnchainKit, CDP Paymaster

Infrastructure & Tools: gRPC, Kafka, Redis, PostgreSQL, Node.js, Next.js, Docker, Nginx, Linux, Datadog

AI-Assisted Development: Claude Code, OpenAI Codex, MCP