Brayden Langley

DISTRIBUTED SYSTEMS · APPLIED CRYPTOGRAPHY · EMBEDDED

Pacific Northwest (open to remote) · brayden@braydenlangley.com · braydenlangley.com · github.com/BraydenLangley · linkedin.com/in/braydenlangley

SUMMARY

Software engineer with over four years designing and shipping production distributed systems and cryptographic protocols, plus a lifetime of building across software and embedded hardware. Grew from engineer to CTO at a startup, owning the bottom of the stack end-to-end: protocol design and implementation, developer SDKs, and a team of up to ten. Self-taught from age twelve; shipped a production app and ran a small business by fifteen. Seeking a Staff/Senior engineering or architecture role building reliable systems in the real world.

TECHNICAL SKILLS

Languages: TypeScript, Node.js, JavaScript, C#, C++

Distributed systems & cryptography: peer-to-peer protocols, mutual authentication, store-and-forward messaging, overlay-network synchronization, applied cryptography, cryptographic identity

Backend & infrastructure: REST APIs, SDK / library design, Docker, Google Cloud Run, Firebase

Frontend & mobile: React, React Native, Xamarin (iOS), ASP.NET Core

Embedded & hardware: Arduino, ESP32, servo control, sensor / telemetry integration

Practice: system architecture, technical leadership & mentorship, UI/UX and product design; AI-assisted development (agentic coding tools, prompt techniques, AI-assisted code review)

EXPERIENCE

Project Babbage: **Software Engineer → Chief Technology Officer** *2022 – Present · Remote*

- Joined as a software engineer in January 2022 and was promoted to Chief Technology Officer one year later, taking ownership of the platform's core architecture.
- Built the original production implementation of **Authrite**, a mutual cryptographic authentication system; the IP was later acquired and open-sourced by the BSV Association (shipped as AuthFetch / auth-express-middleware).
- Co-invented **GASP** (Graph Aware Synchronization Protocol), a bloom-filter-based protocol for bidirectional synchronization of overlay-service nodes with no central source of truth (standardized as BRC-0076).
- Co-designed and built the initial implementation of **MessageBox**, a resilient store-and-forward peer-to-peer messaging layer; led the engineers who productionized it.
- Helped build and managed engineers delivering a developer **TypeScript SDK** (`@bsv/sdk`), now at several thousand weekly downloads on npm.
- Led a team of up to 10 engineers: architecture review, mentorship, and sprint planning; collaborated with executives on a $1M+ contract. Integrated AI-assisted development workflows without surrendering architectural ownership or the code-quality bar.

Freelance Developer & Designer *~2013 – 2016*

- Designed, built, and shipped **iCallElk**, a production iOS app (media streaming, state management, responsive iPhone/iPad UI); ran the storefront and a companion web app, a first software business at age 15, before AI-assisted coding existed.
- Built websites, logos, and brand / graphic design for clients while in high school.

SELECTED PROJECTS

- **The Bitcoin CPU**: 2nd place, sCrypt Hackathon 2024. Implemented an on-chain CPU architecture and co-invented the "solver's bond" mechanism for bounty-based distributed computation.
- **Stablyzer**: an embedded archery-stability analyzer, a custom sensor rig that mounts to a compound bow and scores shot steadiness in real time.
- **StoryInteract**: senior capstone; full-stack interactive storytelling platform (ASP.NET Core + REST API, Xamarin.iOS, Firebase, custom .NET library).

EDUCATION

B.S., Software Engineering Technology; Minor, Applied Mathematics, Oregon Institute of Technology, 2022

Completed two years at Chemeketa Community College en route to Oregon Tech.

DISTINCTIONS

World Elk Calling Champion (youth division, RMEF) · 2nd-degree black belt · Honolulu Marathon finisher (2025) · published children's-book illustrator