

# BRIAN HUANG

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[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

## EDUCATION

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University of California, Davis

Davis, CA

Bachelors of Science, Computer Science

September 2021 - June 2025

## TECHNICAL SKILLS

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**Languages:** JavaScript/TypeScript, Python, C, C++, SQL, Go, HTML/CSS

**Technologies:** React, Redux, Next.js, Node.js, Express, Git, PostgreSQL, Redis, Prisma, AWS, Docker, Kubernetes, CI/CD

**Practices:** Microservices, REST APIs, Event-Driven Architecture, JWT Auth, OWASP-aligned security, Unit Testing, TDD, Agile, Scrum, SDLC, MVC

## RELEVANT EXPERIENCE & PROJECTS

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### Extern, Hydroficient

Cybersecurity Externship

March 2026 - Present

- Built and secured an **MQTT-based IoT pipeline** using Python, TLS encryption, and device certificates to simulate and protect real-time water monitoring systems.
- Conducted **security testing**, including replay attack simulations and TLS performance benchmarking, identifying vulnerabilities and tuning defenses.
- Developed a **real-time security dashboard** using Streamlit to monitor pipeline health, detect threats, and track system status

### CivicConnect – Smart City Infrastructure Platform

Full-Stack Project

React | Next.js | Node.js | Kafka | PostgreSQL | Redis | Kubernetes

- Designed and orchestrated **event-driven microservices** capable of scaling to 1M+ events/day under synthetic load, improving system reliability by 40% and reducing incident response time by 60%.
- Integrated **Redis caching and API load balancing**, accelerating response times by 70% under high throughput.
- Built **automated monitoring and alerting pipelines**, improving observability and enabling faster root-cause debugging during peak event volume.

### Crypto Prediction Bot - Kalshi

Backend & Quantitative Project

Python | AsyncIO | REST APIs | Statistical Modeling | Kalshi API

- Built a **real-time crypto prediction engine** using Geometric Brownian Motion calibrated on 7 days of hourly historical data, estimating volatility and drift to forecast crypto price distributions across multiple time horizons.
- Engineered **async data pipelines** polling live prices and scanning 100+ Kalshi prediction market contracts every 30 seconds, separating historical and live data streams to prevent statistical dilution.
- Integrated **Kalshi API with RSA signature authentication** for real-time orderbook data, position tracking, and balance management across multiple cryptocurrency assets.

### IdeaSpark – Project Idea Aggregation Platform

Full-Stack Project

React | Next.js | FastAPI | Python | SQLite | Google Gemini AI

- Developed a **full-stack platform aggregating 100+ curated project** ideas from Reddit and HackerNews with automated scrapers and AI-powered implementation plan generation using Google Gemini.
- Built **responsive UI** with advanced animations (parallax, staggered reveals) and implemented view tracking, social sharing, and scheduled content updates every 6 hours.
- Architected **RESTful API with FastAPI, and SQLite database**, supporting filtering by difficulty, category, and tech stack with optimized query performance.