Brandon Wetzel

↳ sr. software engineer | full-stack development | embedded systems

contact

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languages

```
# expertise
.
├── typescript
│   ├── react.js
│   └── react-native
│       └── expo
├── elixir
│   └── phoenix
├── c
├── postgresql
└── python

# working knowledge
ruby f# c++ swift java
```

tools/skills

figma · git · nix · aws
gcp · fly.io · supabase
docker · github · ci/cd
sentry · posthog · grafana
elasticsearch · typesense

education

University of Maryland

BS Computer Engineering

College Park, MD · 2015

Experience

Streamline 2024 → present

Founding Engineer

- Owned full product development lifecycle from technical architecture and MVP through go-to-market implementation
- Single-handedly built scalable backend services with Elixir/Phoenix on Fly.io, including robust data pipelines and Elasticsearch integration to provide real-time content availability and sports scheduling data
- Designed and developed a cross-platform streaming discovery application serving iOS, Android, and web users using React Native/Expo with react-query
- Implemented OpenAPI specifications for robust API documentation and client SDK and type generation, ensuring seamless frontend-backend communication
- Established comprehensive monitoring and analytics infrastructure using Grafana/Prometheus for system metrics, PostHog for product analytics, and Sentry for error tracking

Proteus Softworks 2022 → 2024

Owner & Principal Engineer

- Founded and operated sole-member consultancy specializing in mobile and web application development
- Architected and developed full-stack applications using React, React Native, and Swift; with backend services built on Firebase, Supabase, and Elixir/Phoenix
- Partnered with development firms as a senior technical resource, providing expertise in cross-platform mobile development
- Managed complete project lifecycles from initial client requirements through deployment, ensuring on-time delivery and maintaining long-term client relationships

Alluder/Murmur 2020 → 2022

Co-Founder & Lead Developer

- Co-founded social TV platform enabling real-time contextual annotations for streaming content, with patent pending for time-synchronized media commentary system
- Designed and developed cross-platform solution with browser extensions for major streaming services, and companion app utilizing audio fingerprinting for content synchronization across devices
- Built distributed system handling real-time data synchronization between multiple viewing devices, supporting text, image, and video annotations linked to precise media timestamps
- Developed open-source adaptation for University of Chicago's Cinemetrics project, now deployed in film studies programs at UChicago, NYU, and other universities for academic film analysis

hobbies

- Cycling
- Synthesizers
- Illustration
- Animation

volunteering

- DC bike co-op: teaching and empowering residents to maintain their own bicycles
- Hackathon mentoring: help teach and guide students with embedded software projects

Texas Instruments, Inc. 2016 → 2020

Embedded Software Engineer

- Owned and maintained the Processor SDK RTOS bootloader for the Sitara ARM family of processors, ensuring reliable/fast system initialization and secure boot capabilities in customer production systems
- Developed comprehensive driver suites including advanced peripheral interfaces (eSPI), networking stack implementations (PRU-based PHY/MAC), and firmware modules for the Processor SDK RTOS ecosystem
- Implemented neural network graph optimization and lowering techniques to enable TensorFlow/PyTorch model deployment on TI DSP/ARM cores
- Built automated testing infrastructure for driver validation and regression testing, improving code reliability and release cycles for performance audio hardware

Internships/Research Assistance

Joint Quantum Institute/Army Research Lab 2015 → 2016

Research Assistant

- Implemented FPGA-based control system for trapped ion quantum computing experiments
- Helped to develop a custom parallel programming language for real-time experimental control sequences
- Built PyQt graphical interface for researcher interaction with quantum control system

AT&T Government Solutions summer 2014

Software Engineering Intern

- Developed real-time packet inspection system using trained ML classifier to identify and flag potential DNS tunneling activities
- Built machine learning pipeline in Python (scikit-learn) to classify malicious DNS traffic patterns from network flows
- Architected and administered complex network virtualizations to bolster ground-truth dataset and validate findings

TRX Systems 2013 → 2014

Embedded Software Intern

- Developed real-time magnetometer calibration algorithm for indoor positioning
- Designed electromagnetic field detection circuitry to enhance indoor location accuracy