

Jonathan Brewer, Senior Software Engineer

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SUMMARY

Senior software engineer with expertise in front- and back-end development, infrastructure, and microservices architecture. Proven track record architecting enterprise systems handling millions of cases annually, preventing significant fraud losses, and improving operational efficiency by up to 90%. Technical leader skilled in mentoring engineers and delivering impactful solutions across diverse domains.

EXPERIENCE

Block, Inc. (Cash App / Square) | Senior Software Engineer IC6

DEC 2020 — DEC 2024

Core engineer developing enterprise-level systems used by thousands of agents daily, focusing on scalable back-office infrastructure, fraud prevention, and operational efficiency improvements. Directly responsible for technologies that prevented millions in fraud losses while handling millions of cases annually for a platform serving over 50 million monthly active users.

TypeScript, React, Kotlin, Java, GraphQL, PostgreSQL, Kafka, AWS, Datadog, Next.js, ElasticSearch, DynamoDB, Docker, Kubernetes

- o Architected and implemented an enterprise-scale case management platform handling millions of cases annually across both Cash App and Square using Kotlin microservices and React/TypeScript, becoming the second most-used support tool company-wide and replacing Salesforce for specialized review workflows.
- o Led development of 10+ specialized review queues (Scam Payments, Instrument Verification, Enhanced Verification, Denylist Appeals) while collaborating with stakeholders across Risk, Compliance, and IDV teams. Built robust D3 visualizations to reveal connections between high-risk accounts.
- o Architected a configuration-driven Actions Engine using Next.js, TypeScript, and GraphQL that streamlined complex workflows, improving agent efficiency by 80% and becoming foundational for Cash App's new customer support platform.
- o Led test-first development using TDD and BDD principles, working closely with PMs and designers to define user behavior early and building aligned test coverage using React Testing Library and internal tools, reducing test debt and increasing reliability.
- o Collaboratively architected a unified transaction store microservice aggregating all Cash App and Square transaction types through Kafka event streams into a standardized data model. Implemented OpenSearch indexing that improved query performance by 70% while providing support agents with a 'single pane of glass' interface, eliminating need to navigate disparate systems to access comprehensive transaction data.
- o Led incident response initiatives and implemented SLOs across critical systems, reducing P0/P1 incidents by 90% through proactive monitoring and infrastructure improvements.

Mental Health Match | Senior Software Engineer

JUL 2019 — OCT 2020

As the sole engineer alongside CEO and CTO, scaled the platform from 1 to 47 states while increasing user adoption by 100x. Developed both frontend and backend systems enabling rapid iterations based on consumer feedback while establishing analytics infrastructure to drive business insights.

TypeScript, React, Node.js, PostgreSQL, AWS, Material UI, Python, Tableau, Jest, CI/CD

- o Led end-to-end development of the application platform using React, Node.js, PostgreSQL, and AWS, bringing it from initial funding to profitability within 6 months.
- o Implemented responsive design principles with Material UI and custom CSS to ensure cross-device compatibility and optimal user experience across web and mobile interfaces.
- o Designed and built a sophisticated matching algorithm using SQL and Node.js that improved therapist-client match success rates by 35%, significantly increasing platform retention.
- o Created dozens of Tableau dashboards and analytics pipelines using SQL and Python to extract actionable insights, driving iterative improvements to the matching algorithms.
- o Practiced TDD using Jest and React Testing Library, building a robust automated test suite and CI/CD pipelines to ensure stability while enabling rapid deployment cycles.
- o Established automated testing frameworks (Jest, React Testing Library) and CI/CD pipelines to ensure platform stability while maintaining rapid deployment cycles.

Built scalable web and mobile applications for diverse clients across multiple industries. Delivered end-to-end solutions including design, development, deployment, and maintenance for businesses ranging from startups to established organizations.

TypeScript, JavaScript, React, Node.js, Python, Meteor, MongoDB, Flutter, Kotlin, Android Studio, Google Maps API, Stripe API

- Developed and maintained a scalable inventory management platform using Meteor/React/MongoDB, implementing role-based access control and optimized search functionality that improved system performance by 40%.
- Created a white-label solution for field service companies integrating Google Maps API for GPS tracking and analytics dashboards, increasing dispatch efficiency by 25%.
- Built a cross-platform mobile application using Flutter to support scheduling and session tracking for healthcare professionals, featuring custom date range selection and client management functionality.
- Developed a payment processing application with secure transaction handling, automated invoicing, and scheduling features using Node.js, React, and Stripe API integration.
- Designed and built a language learning application using Kotlin and Android Studio, featuring custom animations and offline capabilities for enhanced accessibility.

SKILLS

Frontend Technologies: TypeScript/JavaScript, React (Hooks, SSR, Testing), Next.js, GraphQL, HTML5/CSS3, ChakraUI/Material UI/Ant Design, D3.js Visualizations, Frontend Testing (Jest, Vitest, Cypress)

Backend Technologies: Kotlin/Java, Node.js, Python/Ruby, Microservices Architecture, REST/GraphQL API Design, Event-Driven Systems, Backend Testing Frameworks

Data & Infrastructure: AWS (Lambda, IAM, CloudWatch), SQL/PostgreSQL/Snowflake, NoSQL (MongoDB, DynamoDB, Redis), Kafka Event Streams, OpenSearch/ElasticSearch, Terraform/Infrastructure as Code, Kubernetes/Docker

DevOps & Leadership: CI/CD Pipelines, Datadog/Monitoring, Incident Management & Response, SLO Implementation & Tracking, System Architecture Design, Agile/Scrum Methodologies, Technical Mentorship, Test-Driven Development (TDD), Behavior-Driven Development (BDD)

EDUCATION

University of North Texas

Bachelor of Science - Biology & Chemistry (3.845 GPA)

PROJECTS

WRDL – Wordle Clone | <https://wrld-clone-r7wb.vercel.app>

MAY 2025 — Present

A modern Wordle-style game built with Next.js 15, React 19, Tailwind CSS, and shadcn/ui to explore frontend architecture and UI feedback design.

- Modular architecture with animated game states and responsive layout.
- Component-tested with React Testing Library and Jest.

Python Log Analyzer | <https://github.com/jdbrewer/python-log-analyzer>

MAY 2025 — Present

A full-stack log analysis tool built with Python, Flask, and Chart.js for real-time log visualization and anomaly detection.

- Modular pipeline for log ingestion, processing, and visualization.
- Statistical analysis for error rates and performance insights.

LANGUAGES

English (Native) , German (Working Proficiency) , Greek (Basic Proficiency) , Hebrew (Basic Proficiency)

INTERESTS

Music [Composition , Piano , Byzantine Chant , Teaching Piano] , Gaming & Strategy [Chess , Go , Nintendo , Chess Coaching] , Outdoor Activities [PNW Trails , Cycling , Family Hikes , Softball] , Philosophy & Theology [Logic , Ethics , Christianity] , Sustainable Tech [Green Energy , DIY , Clean Computing] , Family & Mentoring [Raising Daughters , Youth Sports , Teaching Through Play , STEM Activities]