Brandon Cunningham
Senior Software Developer
Current Location: Austin, TX (open to remote or relocation)
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Job Experience

Amazon - Prime Video Live Events
Software Development Engineer L5
01/2025 - Present | Austin TX

Backend engineer on Prime Video Live Events building and operating high-scale distributed systems (1M+ TPS, sub-100ms latency) powering personalization, content ranking, buy box selection, and geo-restrictions.

- Architected and deployed a new SQLite-based precache system replacing Netflix Hollow, leading migration of multiple high-TPS services running on **Amazon ECS** and reducing container memory utilization by **80%** while maintaining sub-100ms latency under peak live-event traffic.
- Designed and implemented an event-driven travel detection system leveraging SQS to process **1B+ daily playback and location events**, inferring customer travel state from behavioral and location history to dynamically enforce geo-restrictions and content availability.
- Led the migration of **300M+ DVR records in DynamoDB** as part of Prime Video's recording feature launch, designing backfill and validation workflows to ensure data integrity and zero-downtime deployment.
- Redesigned and re-implemented the live-event badging and schedule service to support real-time personalization driven by buy box winner selection logic, improving content relevance at high-traffic scale.
- Led the design and implementation of a device geo-correction system enabling customers to override incorrect TV location detection, partnering across client and backend teams to deliver a secure end-to-end solution serving **hundreds of daily users** and reducing geo-related support issues.
- Designed and launched a self-service internal QA platform **adopted by ~100 engineers** and stakeholders, eliminating manual developer intervention in validation workflows and accelerating pre-release testing for live-event services.
- Act as a technical mentor and design reviewer for junior engineers, delivering consistent feedback on architecture and code quality to raise the engineering bar across high-scale, low-latency services.

Paychex - External API
Software Developer 3
03/2021 - 01/2025 | Rochester NY

Full-stack engineer on the External API team designing and expanding public APIs while delivering customer facing features in the Paychex Flex application with direct integrations to third-party platforms.

- Designed and built a full-stack access management system enabling clients and employees to manage third-party application permissions, implementing secure backend APIs and role-based access controls within the Paychex Flex platform used by **hundreds of thousands of users**.
- Identified and resolved performance bottlenecks in legacy API endpoints, reducing latency and failure rates while eliminating recurring integration issues reported by third-party partners.
- Reduced Splunk log ingestion volume by **30%** by auditing and eliminating redundant and low-value logs across services, improving observability signal quality and lowering operational overhead.

Skills

Java, Kotlin, Distributed Systems, Microservices Architecture, Event-Driven Architecture, RESTful API Design, AWS (ECS/Fargate, DynamoDB, SQS, Lambda, API Gateway, CloudFormation CDK, IAM, CloudWatch, S3, CloudFront, Route53), Docker, CI/CD Pipelines, Infrastructure as Code, High-Throughput & Low-Latency Systems, Spring Boot, Ktor, SQL (Oracle), NoSQL (DynamoDB, MongoDB), SQLite, Nginx, TypeScript, JavaScript, Angular, Git