Tyler Le

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Experience

Software Development Engineer Jun. 2024 – Present

Amazon *San Diego, CA*

- Owned the end-to-end design and implementation of backend APIs and data models to enable Interactive Video Ads, driving 33% adoption over standard formats; deployed ad-creation on ECS/DynamoDB and low-latency ad-serving on Lambda/ElastiCache with 99.9% availability.
- Engineered a high-throughput, fault-tolerant data pipeline in Kotlin with Amazon Kinesis, processing 80M+ records/hr for ML-driven product badge recommendations; optimized ElastiCache caching to achieve sub-2ms ad-serving latency.
- Developed and scaled backend services for Alexa Home & Away modes using Java and GraphQL, supporting 15M+ users while reducing p95 API latency by 200ms through multithreaded execution.
- Integrated a customer ID encryption system using ElastiCache, processing 15K events/sec with automated Lambda-based cache invalidation to enforce privacy requirements while maintaining sub-2ms latency.

Software Development Engineer Intern Jun. 2023 – Sept. 2023

Amazon *Seattle, WA*

- Shipped a low-latency backend API using Java (Spring) and DynamoDB to generate real-time Alexa smart-home notifications, reducing service traffic by 8x compared to legacy architecture.
- Orchestrated CI/CD pipelines and comprehensive unit and integration tests using JUnit and Mockito, maintaining 95% test coverage and improving deployment reliability.

Software Engineer Intern Jun. 2022 – Aug. 2022

General Atomics *Poway, CA*

- Refactored and optimized mission-critical flight systems written in C and C++, improving reliability and performance of autonomous takeoff and landing systems for remotely piloted aircraft.
- Resolved 16% of long-standing production bugs across avionics, ground-control communication, and real-time video systems.

Software Engineer Intern Jun. 2021 – Sept. 2021

Cardea Bio *San Diego, CA*

- Engineered a C#.NET application integrating 15+ robotic lab instruments, enabling real-time experiment control, monitoring, and orchestration.
- Developed RESTful APIs to enable secure communication between robotics hardware and internal software systems.
- Streamlined data-driven laboratory workflows using Python and MySQL, improving experiment throughput and reliability.

Education

University of California San Diego Sept. 2021 – Dec. 2023

Bachelor of Science in Computer Science

- GPA: 3.93 / 4.00
- Relevant Coursework: Data Structures, Algorithms, Operating Systems, Computer Security.

Projects

Reddit Video Compilation Bot | *GitHub*

- Designed and built an end-to-end, config-driven backend automation pipeline in Python that ingests Reddit media via external APIs, processes and merges video content, and persists upload metadata to enable reliable publishing workflows.
- Implemented fault-tolerant orchestration and scheduling logic for video processing and uploads, including OAuth-based API integrations and time-aware publish scheduling to support consistent, automated content delivery.

Technical Skills

Languages: Java, Kotlin, Python, C++, TypeScript, SQL
Backend & Systems: Microservices, REST/GraphQL APIs, Event-Driven & Asynchronous Systems, Multithreading, High-Throughput & Low-Latency Systems, Spring Boot
Cloud & Tools: AWS (Lambda, ECS, EC2, DynamoDB, ElastiCache, Kinesis, SQS, SNS), CI/CD, Git, JUnit, Mockito, Docker