# Carlos Durazo

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## Summary

Senior Software Engineer with 10+ years of full-stack experience building and modernizing large-scale e-commerce platforms serving the life sciences industry. Proven track record delivering cloud-native applications on AWS EKS, designing event-driven architectures with Apache Kafka, and leading complex CMS migrations from Adobe CQ to AEMaaCS. Comfortable across the stack, from Java and Spring Boot backends to React, Vue.js, and TypeScript frontends, with Python powering automation scripts and microservices in between. Consistent focus on performance, reliability, and reducing operational overhead, including cutting application load time from 35 seconds to 2.5 seconds, eliminating a 10-incident backlog, and reducing publish node traffic by 70% through automated CDN tooling.

## Links

- GitHub - https://github.com/memod
- LinkedIn - https://www.linkedin.com/in/carlos-g-durazo
- Website - https://www.carlosdurazo.dev/
- Tech Blog - https://blog.carlosdurazo.dev/

## Education

**Instituto Tecnologico de Tijuana | Tijuana, Mexico**
**Computer Systems Engineering | 06/2014**

## Skills

Java Development, Spring Boot, REST API Design, Adobe Experience Manager, Apache Kafka, CI/CD Pipelines, Docker & Kubernetes, Agile/Scrum, Event-Driven Architecture, Technical Mentorship, Distributed Systems, AWS, Python, TypeScript, Vue.js, React, Node.js, Express.js, Flask, AWS EKS, Apache Camel, PostgreSQL, MongoDB, Sling Models, HTL, OSGi, Adobe I/O, AEM Dispatcher, Akamai CDN, Grafana, Splunk, Jenkins, GitHub Actions, TDD, BDD, Linux, JT400/AS400, RabbitMQ, Spring Data JPA, Redux

## Certificates

AWS Solutions Architect Associate

## Languages

English, Spanish

## Experience

**Thermo Fisher Scientific | San Diego, California**
**Senior Software Engineer | 06/2025 - 05/2026**

- Co-led an enterprise platform migration reducing infrastructure-related incidents by ~90% and eliminating platform maintenance burden by transitioning operations to a managed cloud service.
- Established coding standards, unit testing baselines, and best practices across the codebase by enforcing standards through code review, integrating Checkstyle into the CI/CD pipeline to block non-compliant deployments, and enforcing 80%+ code coverage thresholds to reduce defect rates.
- Designed and implemented secure cloud network integration by configuring CIDR blocks and firewall authentication rules to establish a VPN tunnel connecting the CMS cloud environment to internal Thermo Fisher services not exposed to the public internet, unblocking content authors from delivering key features dependent on internal APIs.
- Reduced origin server traffic by ~70% by documenting CDN and cache layer TTL standards and building a Python script to validate cache configurations across production URLs, directly lowering cloud licensing costs tied to origin request volume.
- Identified and resolved excessive Loki log consumption caused by hardcoded INFO-level calls in a third-party open-source connector, building the connector from source, patching the logging behavior, and shipping to production, reducing log

output from ~20 entries per request to 1.
- Built author-facing UI components using Vue.js and developed a dedicated error simulation component to validate server-side error handling and response behavior across different HTTP error code ranges.

**Tools & Technologies:** Java, Adobe Experience Manager (AEMaaCS), AEM Network Interface, Akamai CDN, AEM Dispatcher, Python, Vue.js, Apache Kafka, Loki, Checkstyle, CI/CD Pipelines, AWS, OSGi, Sling Models, HTL

**Thermo Fisher Scientific | Tijuana, Mexico**
**Staff Engineer | 06/2024 - 06/2025**

- Served as informal technical lead for a 6-member distributed team across Tijuana, Carlsbad, and India, collaborating with the architect on key design decisions, providing implementation guidance, and reducing team noise by owning critical technical decisions that unblocked delivery.
- Designed and implemented an event-driven Python/Flask microservice deployed on AWS EKS that consumed publish and unpublish events from Adobe I/O, enriched them with additional data, and distributed them to Apache Kafka topics for consumption by 4 downstream teams, enabling reliable real-time content updates for indexing and site rendering, with a PostgreSQL schema and index design optimized for high-volume event storage and full load replays.
- Built a replayable event log into the microservice by persisting all events to PostgreSQL, allowing any downstream team to reinitialize their data by replaying the full event history into their dedicated Kafka topics, eliminating cluster resource strain caused by Adobe-side event retriggering across publish nodes.
- Designed and maintained a high-reliability event delivery pipeline handling variable throughput from steady low volume up to 300 events per hour during peak activity, ensuring ordered, real-time data flow between the CMS platform and downstream consumers.
- Contributed to cloud architecture design, integration workflows, and operational standards for the AEMaaCS migration that carried into production at Fishersci.com.
- Contributed to the growth of a mid-level engineer to senior through technical mentorship, consistent feedback, and hands-on guidance throughout the role.

**Tools & Technologies:** Python, Flask, Apache Kafka, PostgreSQL, Adobe Experience Manager (AEMaaCS), Adobe I/O, Adobe Journal API, AWS EKS, Java, Spring Boot

**Thermo Fisher Scientific | Tijuana, Mexico**
**Senior Software Engineer | 09/2020 - 06/2024**

- Designed and delivered the My List feature as a full-stack application from the ground up, designing the PostgreSQL schema from scratch using Spring Data JPA, building the Java 11 and Spring Boot backend, contributing to the React, Redux, and TypeScript frontend with lazy loading and query-level performance optimizations, authoring all Kubernetes YAML manifests and Dockerfiles, and deploying both services as the first successfully cloud-native applications on AWS EKS across the entire e-commerce division, cutting load time from 35 seconds to 2.5 seconds and eliminating a recurring 10-incident backlog with zero application-caused incidents in the 4 years since.
- Built a full-stack admin portal for a product ratings workflow from scratch, developing a Node.js and Express UI layer that proxied requests to Java and Spring Boot backend services, including an Excel file upload interface, backend processing pipeline, and a customer-facing email notification and unsubscribe page.
- Supported AWS EKS migration for 10 applications across two Tijuana-based teams by making application-level changes to ensure cloud-native compatibility, coordinating with the SRE team on deployment pipeline issues across Jenkins and GitHub Actions, and reducing infrastructure-related incidents by 75%.
- Led backend and frontend component modernization by rewriting inefficient legacy CMS components using Java, JavaScript, HTL, Sling Models, and OSGi services, significantly reducing defect rates across the platform.

**Tools & Technologies:** Java 11, Spring Boot, React, TypeScript, PostgreSQL, Oracle, AWS EKS, Kubernetes, Jenkins, GitHub Actions, Adobe Experience Manager, Sling Models, HTL, OSGi, JavaScript, Docker, Spring Data JPA, Redux

**Thermo Fisher Scientific | Tijuana, Mexico**
**Software Engineer | 06/2018 - 09/2020**

- Maintained 3 customer-facing shopping tools on ThermoFisher.com and resolved critical MongoDB performance issues in the shared list functionality by introducing proper indexing, reducing query load time from 13 seconds to 3 seconds for 50-item lists.
- Integrated Science Exchange's REST API to deliver a new customer-facing laboratory search experience on ThermoFisher.com, handling backend authentication and consuming their HTML rendering API to surface lab services, expanding service discovery capabilities under a strategic business partnership.
- Contributed to a site-wide backend modernization initiative by writing Spring Boot services and adopting TDD and BDD practices, improving service reliability and strengthening test coverage standards across the platform.
- Participated in extracting and migrating 2 services out of a monolithic application using Apache Camel as part of a team effort, simplifying integration flow and improving long-term maintainability of the codebase.
- Expanded Fishersci.com's Quotes functionality to 5 European markets (UK, Ireland, Italy, France, Germany) by writing Java integrations using the Apache Camel JT400 component to consume quote data from an AS/400 mainframe, and

implementing frontend localization for multi-currency and compliance requirements across B2B and retail channels.
**Tools & Technologies:** Java, Spring Boot, Apache Camel, JT400/AS400, MongoDB, Oracle, REST APIs, Node.js, Express, TDD, BDD, JavaScript

**Samsung Electronics Mexico | Tijuana, Mexico**
**Software Engineer | 08/2014 - 05/2018**
**Smart TV App Management (2014 - 2015)**

- Manually reviewed, debugged, and tested approximately 20 Smart TV application defects per month across JavaScript and Tizen OS codebases, consistently exceeding team throughput benchmarks by directly analyzing app source code and validating fixes on physical TV hardware.
- Collaborated with engineering teams across multiple countries, including Korea and Brazil, on new functionality rollouts, cross-region testing, and defect resolution.

**ACR Platform - DevOps/DataOps (2015 - 2018)**

- Led a 5-member DevOps/DataOps team responsible for 24/7 uptime across the ACR platform, managing on-call rotations, incident response, and system monitoring using Grafana and Splunk.
- Automated weekly data reporting by building a Python cron job that extracted data from Amazon Redshift, eliminating recurring ad hoc data pull requests and freeing team capacity for higher-priority work.
- Built and maintained AWS-based data pipelines using Amazon EMR to run ETL jobs from S3 into Redshift, supporting the ACR platform's data infrastructure and enabling downstream reporting and analytics.
- Mentored 2 team members on system monitoring and troubleshooting best practices.

**Tools & Technologies:** Python, JavaScript, Tizen OS, AWS (S3, EMR, Redshift), RabbitMQ, Grafana, Splunk, Linux/Shell Scripting, Scala