Phone: (480) 612-5873 • email: ncfritz@ncfritz.net
15929 E Shore Dr • Lynnwood WA, 98087

NEIL FRITZ

Neil is a Software Development Manager with over 20 years of experience architecting and delivering large-scale, distributed systems in cloud-native environments. An Amazon Bar Raiser, he has driven hiring decisions across 500+ Amazon interviews, built and scaled cohesive teams, and grown engineering talent. An expert in AWS architectures, microservices, and High Availability (HA) services, Neil is known for scaling engineering teams, establishing SDLC, driving operational excellence, and delivering enterprise platforms used by millions of users.

CORE TECHNOLOGIES/COMPETENCIES

Cloud: AWS (Lambda, DynamoDB, SNS, SQS, CloudFront, API Gateway, Kinesis, EC2, SWF)
Architecture: Distributed Systems, Microservices, Event-Driven Systems, Horizontal Scaling, High Availability (HA)
AI/ML: LLM systems, AWS Bedrock, Retrieval Augmented Generation (RAG), LangChain
Frontend: React, Redux, AntD, CSS, HTML
Data: DynamoDB, ElasticSearch, Oracle, MySQL, Postgres
Engineering: DevOps, CI/CD, SDLC, Observability, Incident Response, Platform Architecture, SDK Development
Leadership: Hiring, Organizational Scaling, Technical Strategy, Mentorship, Career Growth, Roadmap Development, Stakeholder Management, Cross-Functional Leadership

EXPERIENCE

Amazon **Seattle, WA**

Sr. Software Development Manager – People eXperience Technology ***2024 - 2025***

- Built LLM-powered intent detection using Amazon Bedrock to classify user requests across ten Amazon knowledge domains.
- Built policy-aware LLM response service enforcing safe AI outputs across enterprise HR knowledge domains.
- Led team in designing and implementing an internal RAG system using LangChain, Amazon Bedrock, and Amazon Q for Business.
- Led development of distributed ingestion pipeline aggregating enterprise knowledge from 15+ CMS systems into a centralized LLM-ready knowledge platform.
- Led team in integrating intent detection with chat orchestration services to provide seamless request handoff with eight domain specific chat bots.

Sr. Software Development Manager – AWS Talent Acquisition ***2020 - 2024***

- Created $20MM/yr of value as the founding engineer and manager for Prelude, an external meeting scheduling product.
- Co-founded the AWS Talent Acquisition Product and Development team - defined technical direction, authored system architecture, established SDLC practices, built out operations support, implemented core functionality, and led all product releases in a multi-year roadmap.
- Grew team from one SDE to 15 to support multiple organization level R&D initiatives
- Implemented the Prelude using React, DynamoDB, Lambda, API Gateway, CloudFront, SNS, SQS, Kinesis, SES, and Pinpoint.
- Designed and implemented frontend/backend API, notifications, telemetry, dashboarding, and ops support systems.
- Provided technical guidance on all major features, including collaborative scheduling modes, generative AI writing assistant, ICS response handling, migration from on-prem Exchange servers to Office 365.
- Established DevOps practices including runbooks, alarming/monitoring strategy, ticket handling practices, IRP, and a 24/7 on-call support rotation.
- Built customer relationships and established customer feedback loops for product enhancement and validation.
- Helped scale adoption from 0 to 650K meetings scheduled each year.

Bright Machines **Seattle, WA**

Sr. Director, Software Development ***2019 - 2020***

- Founded Bright Machine's Seattle office - procured and coordinated desking/furniture, IT services, branding, employee amenities, and security.
- Delivered on-robot real-time interop layer allowing real-time systems operation in an asynchronous runtime environment.
- Delivered on-robot microservice architecture to provide ML, CV, and OTA update capabilities to a traditional PLC based system.
- Built out lab for 12 robotic cells, including 140KvA electric service, pneumatic distribution, and 10 tons HVAC capacity.
- Shaped corporate hiring practices by setting core engineering values, role guidelines, and technical hiring loop construction.
- Conducted over 200 interviews to grow the office from seven engineers to over 40.
- Advised C-Suite on the long-term product vision for Bright Machine's Software Defined Manufacturing platform.
- Led three engineering teams in architecting and delivering a micro-service backed GraphQL topology powering the customer facing factory configuration application

Amazon **Seattle, WA**

Sr. Software Development Manager - Amazon Photos ***2016 - 2019***

- Delivered Amazon CloudCam integration with Amazon CloudDrive
- Delivered $45MM/yr of value via face detection and clustering and migrated from AWS Rekognition.
- Delivered backend services for Amazon Photo's social sharing and drive client adoption across iOS, Android, web, desktop, and set-top platforms.
- Migrated Amazon Photos 100+ node ElasticSearch cluster from v1.5.9 to v6.x.
- Reduced Amazon Photo's threat surface by 90% by culling inactive 3P integrations.
- Oversaw the response, investigation, mitigation, and post-mortem of multiple high severity security incidents.

Software Development Manager - Alexa Communications ***2016***

- Designed, implemented, and deployed micro-service architecture supporting video, audio, and text messaging for the launch of the Echo Show device.
- Delivered operations support for Alexa asynchronous communications services - dashboards, alarming strategy, ticket handling, and 24/7 on-call cycle.
- Oversaw delivery of multi-modal interface to asynchronous communication services - TUI (Speechlet), APK (on-device), iOS, and Android clients.
- Led QA organization to develop launch readiness testing plan and implement integration and end-to-end testing.

Software Development Manager - Search Experience ***2014 - 2016***

- Established the Search Experience latency program and delivered 10% reduction of p90 and p50 latency for Amazon Retail Search pages across 14 marketplaces.
- Delivered migration of product details from Product Aggregator Service to Data Path, a centralized graph system.
- Delivered ML based predictive latency optimizations based on browser/connection profiling.
- Delivered over 20 A/B tests targeting "above-the-fold" latency reductions.
- Drove Q4 scaling, operational readiness, and monitoring resulting in zero downtime during 2014 peak.

Software Development Engineer - Marketplace ***2012 - 2014***

- Delivered DynamoDB backed attribute service handling 10,000TPS.
- Designed and delivered detailed, cross-linked, operational dashboards for 10+ services.
- Delivered workflow state metrics for all 50+ platform supported feeds and reports.
- Designed and delivered client metering service, driving down operational burden via load shedding.
- Migrated 40+ teams to a new client framework.

Past Experience

Sr. Java Developer	Limelight Networks	*2009-2012*
Member	Paper Napkin Designs	*2009-2012*
Lead Web Application Developer	Arizona State University	*2002-2009*

Education

B.S. Computer Science	Arizona State University	*2005*

Volunteer Experience

Member, Board of Directors	The Food Bank @ St. Mary's	*2020-Present*

Patents

US 11810554 B2	Audio message extraction	*11/2023*
US 10803856 B2	Audio message extraction	*10/2020*
US 10796079 B1	Generating a page layout based upon analysis of session variables with respect to a client device	*10/2020*
US 10319375 B2	Audio message extraction	*06/2019*