

Zara Afridi

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Software Engineer
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EXPERIENCE

Amazon

San Francisco

Software Engineer II on AWS Bedrock (Capacity Management)

April 2024 to Present

- Architected and developed solutions within Amazon EKS (Elastic Kubernetes Service) to **speed up capacity management** processes, significantly reducing manual intervention and improving resource allocation efficiency.
- Spearheaded the redesign and implementation of critical dashboards, **enhancing visibility into capacity utilization and performance metrics** for AWS Bedrock services, including the most popular LLMs in the world hosted on AWS.
- Collaborated cross-functionally with product managers and data scientists to translate business requirements into technical specifications for capacity management solutions; coordinated with EC2 teams to manage capacity transfers.

Software Engineer II on AWS Just Walk Out (Store Technology, Task Routing)

March 2024 to April 2024

- Designed a migration plan to **transition critical production data aggregation and authentication infrastructure** (~500k requests/day) from internal Amazon systems to native AWS services, aligning with a company-wide initiative to enhance operational health and efficiency.

Software Engineer I on AWS Just Walk Out (Store Technology, Task Routing)

January 2023 to March 2024

- Led the full-stack development of a new **self-serve feature** enabling data labeling managers to create dynamic and static deadlines for tasks, resulting in a **100% reduction in on-call burden** related to manual deadline adjustments.
- Designed and implemented a **new process for conducting validation sampling** following a major service refactoring, enabling **preemption of 20% of inquiries** via machine learning models and generating a **12% monthly cost savings**.
- Identified and resolved an **issue with health-checking infrastructure for a critical service**, implementing an optimized checking strategy that **reduced AWS costs by 20%** while maintaining system reliability.
- Discovered and **rectified a long-standing issue** where a service was double-publishing various metrics, refactoring the publishing code to improve efficiency and implementing a robust retry mechanism **to enhance system resilience**.
- Designed and implemented a feature to **override the baseline routing algorithm**, allowing for targeted task assignment to specific associates, and **developed an accompanying self-service UI** to streamline task management.

Software Engineer I on AWS Just Walk Out (Store Technology, Data Aggregation)

October 2022 to January 2023

- Designed and implemented **comprehensive integration tests** for previously untested services that had been responsible for major production incidents, **increasing overall system stability and reducing production incidents**.
- Led an **extensive code cleanup initiative**, systematically identifying and deprecating outdated code segments and obsolete inquiries in order to improve system resilience, **reduce operational burden**, and manage code health.
- Enhanced operational health by strategically creating new alert queues and alarms and reprioritizing existing alerts.

Publicis Sapient

Toronto

Software Engineer

June 2021 to September 2022

- Led the architecture and development of **high-performance backend product filtering** services in order to optimize site load times to consistently achieve **sub-150 millisecond response times**.
- Developed and **deployed a full-stack application** to enable administrators of a worldwide brand to **self-serve management** of their product offering site.
- Designed the data model for a product display site and **guarded against client user error** by building automated checks for SQL database updates to update related records and maintain data integrity.

Software Engineer Intern

June 2020 to August 2020

- Designed and developed a **highly scalable, low-latency notification microservice** capable of processing over **one million messages per second** to support high-traffic customer sales, advertising, and alerting pipelines.
- **Reduced system downtime by 7%** by engineering a comprehensive integration and load testing suite with performance monitoring using existing monitoring tooling like Google Cloud Monitoring.

EDUCATION & PROJECTS

York University (HSc Computer Science)

Graduated April 2021

Personal Portfolio (JavaScript, Gatsby, Netlify)

github.com/zara-afridi/portfolio

See more of my work there!

NuHealth (JavaScript, Next.js, Netlify, Firebase)

github.com/zara-afridi/nuhealth

Hackathon entry during my time at Publicis Sapient.