

Shreenath Iyer

SOFTWARE ENGINEER 2 AT AMAZON

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Summary

Software Engineer with **6+ years** of industry experience building large scale, high throughput systems while maintaining the overall operational excellence of the team. Passionate about software engineering constructs, always keen on discussing design decisions and choices, and an earnest will to learn and incorporate new technologies in my work.

Technical Skills

- **Languages** – Java • Python • Typescript
- **Technologies** – AWS • Docker • Git • Spring

Experience

Amazon – Advertising Org | SOFTWARE DEVELOPMENT ENGINEER 2 ————— **Apr 2021 – Current, Seattle, WA**

Led, designed and executed the first online model hosting platform for our team (ARIS-Archers) to get live Causal Impact Estimates for recommendations.

- Designed and executed the document for “AIRS-Archers MLOps Infrastructure” - an automated method to deploy model code to ECR images, train the model and deploy generated artifacts to a Sagemaker endpoint to predict online causal impact scores for recommendations generated through an async workflow.
- Used Amazon Sagemaker to host the endpoints and created a proxy API Gateway-Lambda application to invoke the endpoint during workflow execution.
- Project currently in progress. Estimated impacted - ~50% - 150% increase in recommendation adoption generating over 20 million USD.

Implementation of Sponsored Display Object Service (Performance Attribution) to enable custom overrides for advertiser recommendations.

- Created “Performance Attribution Service” - a brand new AWS ECS based Fargate service hosted on API Gateway, that takes in an advertiser’s objective as a goal and provides sponsored display recommendations tailored to the objective via Auto-Playbooks (an async orchestration that generates recommendations).
- Tracked the WoW and MoM progress using KPIs such as impressions, clicks and conversions, that align with the initial objective created for the advertiser.
- Enabled a feedback mechanism loop by providing metrics in a PPTX format to Account Executives, that in turn saved ~36 hours per AE per advertiser.

Create all the infrastructure for RegulusV2, an automated data ingestion pipeline that periodically bulk writes data from an EDX feed to AWS Elasticsearch.

- Onboarded our infrastructure to Superstar and Bubblebridge (internal network services that automate the creation of CName records in Route 53), to enable communication through allegiance in an automated fashion.
- Subscribed to EDX SNS events in our SQS queue, and based on a new notification, started an AWS Stepfunction to bulk write data in AWS Elasticsearch.
- Reduced cluster operational load by ~80% and reduced the cost of maintaining a single cluster by \$500,000 USD by isolating individual applications.

Amazon – Advertising Org | SOFTWARE DEVELOPMENT ENGINEER 1 ————— **Aug 2019 – Mar 2021, Seattle, WA**

Refactor and redesign the workflow for Keyword Recommendation Service along with the integration of Custom Keyword Ranking (CKR) Service.

- Integrated with CKR Service and refactored the existing codebase in Keyword Service to support calling Public Ad APIs for keyword recommendation.
- Facilitated better migration strategies for Public Ad APIs using shadow mode testing in prod with live traffic and use these metrics for quality assurance.

Introduce the recommendation of Product Attributed Targets within Keyword Recommendation Service for Sponsored Products and Sponsored Display.

- Branch out existing APIs to allow for the recommendation of targets for SP and SD that attributed to increased revenue in recommendation adoption.

Improved the overall Operational Excellence of the team by automating manual tasks and fixing broken pipeline approval workflows.

- Productionized Preference Center Service and provided DNS resolutions using AWS Route 53. Simplified approval processes and reduced manual tickets.
- Fixed integration tests that were failing over 2 years by forcing an ES refresh and eliminated the need for Control Management process for deployment.

Nokia Nuage Networks | TECHNICAL MARKETING ENGINEER INTERN ————— **Jun 2018 – Aug 2018, Mountain View, CA**

- Implemented the automated creation and deployment of virtual machines enabled with OpenStack Queens on NuageX for SmartNIC testing.

Fidelity National Information Services (FIS Global, formerly Sungard) | PRODUCT DEVELOPMENT ENGINEER ————— **Jun 2015 – Jul 2017, Pune, India**

- Migration of MSSQL database in Stockholm and Pune to PostgreSQL for faster data retrieval and query optimization of Magellan by ~3 sec.
- Created test automation frameworks for SwiftReader and SwiftWriter teams and introduced them to CI and Magellan using Python, Django and Buildbots.

Education

University of California, Davis | MASTER’S IN COMPUTER SCIENCE | GPA- 3.95 ————— **Sep 2017 – Jun 2019, Davis, California**

University of Pune, India | BACHELOR’S IN COMPUTER SCIENCE | GPA- 3.7 | First Class with Distinction ————— **Aug 2011 – Jun 2015, Pune, India**

Accomplishments

- **Amazon Alexa Prize 2018**- A part of the winning team from UC Davis (Team Gunrock) of the 2018 Amazon Alexa Prize Competition for which we received a cash prize of \$500,000 USD and a research grant of \$250,000. Implemented the weather bot, sci-technology bot, fashion bot and automated local testing in Python3 using NLP, Docker, Redis, DynamoDB and AWS.