

# Shreenath Iyer

SOFTWARE ENGINEER AT AMAZON

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## Summary

Experienced Software Engineer with **7.5+ years** of expertise in architecting and delivering large-scale, high-throughput systems, working with LLMs, with a strong emphasis on operational excellence and team collaboration. Adept at driving technical discussions, guiding design decisions, and fostering a culture of continuous learning and innovation. Committed to adopting emerging technologies to enhance system performance and team capabilities.

## Education

**University of California, Davis** | MASTER'S IN COMPUTER SCIENCE

*Davis, California*

- GPA- 3.95 Sep 2017- Jun 2019

**University of Pune, India** | BACHELOR'S IN COMPUTER SCIENCE

*Pune, India*

- Graduated with a First Class with Distinction | GPA- 3.7 Aug 2011 – Jun 2015

## Technical Skills

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

## Experience

**Amazon – Advertising Org** | SOFTWARE DEVELOPMENT ENGINEER 2

Apr 2021 – Current, *Seattle, WA*

**Team Lead for Consolidation and Streamlining Opportunity Generation and Impact Estimates Decoration in Apache MWAA Airflow using EMR and Spark**

- Led the design and enabled a consistent data generation and consumption format across 2 Engineering and 2 Science teams to decorate opportunities.
- Leveraged EMR and Spark to run ETL jobs, Kinesis Firehose for Elasticsearch ingestion, and Sagemaker model outputs to generate forecast values using ML.
- Mentored junior engineers, led project management and delivered a successful orchestration preserving each team's autonomous data transformations.
- Contributed to an org wide adoption goal of ~700M USD, deprecated 2 ES clusters consuming ~500K per year while ensuring enhanced customer experience.

**Led, designed and executed the first online model hosting platform for our team to generate live causal impact estimates for recommendations.**

- Designed and executed the document for AIRS MLOps Infrastructure- an automated method to deploy ML code to ECR images, train the model and deploy generated artifacts to an AWS Sagemaker endpoint to predict online causal impact scores for recommendations generated through Auto Playbooks.
- Used Amazon Sagemaker to host the endpoints and created a proxy API Gateway-Lambda application to invoke the endpoint during workflow execution.

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

- Created an ECS based Fargate service on API Gateway, that takes in advertiser objective as a goal and provides SD recommendations tailored to the objective.
- 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, 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 for all applications 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 Service.**

- 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.

**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

June 2018 – Aug 2018, *Mountain View, CA*

**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.

## 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.