Akshay Sachdeva

I am a software engineer. I prefer a pure functional programming approach to design and implementation to build high performant and modular solutions. Cloud Engineering Savvy (GCP |+| AWS |+| Azure) I love OSS and welcome the growth from engaging in contributions with the community.

Professional Experience

March 2020 - Present

HiFi — Sr Principal Engineer -

Working on Streaming DataPipeline hosted at GCP utilizing Kubernetes/DataProc to help acquire, transform and mine real time statements from channel providers, and ruin aggregations and anaytics against them to help support financial rights for artists

- -- Scala with fs2, http4s, sttp, circe, cats et al
- Data Visualization -- Google Alerting
- GCP

Responsible for designing, architecting and implementing this offering on scala 2.13 and a mix of typelevel libs in cats, circe, http4s and fs2 for stream and stream combinators. Build and Deployment is using CircleCI and Terraform to provision. Also using Looker + BigQuery + BigTable at GCP to provide analytics.

March 2019 - Present

Dell Inc — Sr Principal Engineer -- Research in Advanced Engineering

Working on Streaming DataPipeline hosted at Azure utilizing Kubernetes to help acquire, transform and mine real time signals from Dell devices, storage and network components at a massive scale to enable Data Scientists run better models faster and more importantly more pre emptively for better a better support infrastructure.

- -- Scala with zio-streams, http4s, cats et al
- Data Visualization -- Prometheus + Grafana
- Azure

Responsible for designing, architecting and implementing this offering on scala 2.12 and a mix of typelevel libs in cats, circe, http4s and zio for stream and stream combinators. Build and Deployment is using GitLab and k8s+Terraform to provision. Also researching Graph DB and GraphQL approach for an Enterprise Knowledge Graph solution for the fraud detection and support assist teams.

August 2019 - May 2020*

Citrine Informatics — Senior Software Engineer (Remote)

Worked on Machine Learning REST Service hosted at AWS utilizing EC2 to enable an application for Citrine to serve its ML Library also built on Scala. The REST service interacted with a Data Service Component (Dynamo DB + Postgres) and integrated with a TypeScript REST API that provided authentication and authoriziation leveraging JWT.

- -- Scala with Akka(Actors, Http, Streams), cats, json4s, cats-effect et al
- AWS (SQS, Cloudwatch, EC2, DynamoDB, S3, Lambda, AWS Batch)
- Data Visualization -- Monitoring Service + DataDog + AWS Lambda to move data from Cloudwatch to Datadog

Responsible for implementing and refactoring this service built on scala 2.12 to migrate to a pureFP approach using cats + cats-effects and bringing scalacheck. Build and Deployments was using Pants + Jenkins + CF/Jssonet.

August 2017 - March 2019

Spiceworks Inc — Staff Data Engineer

Worked on Streaming Data Pipeline to support a RTB (Real Time Bidding) service for the adtech space. The Pipeline had 23 microservices that were deployed on AWS on EKS with Monitoring support using DataDog. The Persistence stores ranged from RDS(Schema registry), to Redis(cache and lookup), to Cassandra(Graph + History), to DynamoDB and AthenaDB(datalake), and finally to Kafka as data backplane. Orchestration and ETL was built using Airflow (Python 3.6) The RTB stack was built on GoLang

- -- Scala with Akka(Actors, Http, Streams, Persistence), fs2, cats, cats-effect, circe, doobie, shapeless, sangria, Gatling et al
- AWS (Kinesis, Eks, Athena, Lambda, Glue)
- Heavy use of Kafka as databackplane to connect services and RTB service
- Data Visualiztion migrated from ELK to NewRelic to DataDog

Responsible for implementing and refactoring this service built on scala 2.12 and later to migrate to a pure FP approach using cats + fs2 and http4s and bringing better testing using scalacheck. Build and Deployments was using sbt + Gitlab + k8s + Terraform

August 2012 - March 2017

Advisory Board Inc — Senior Software Engineer

Towards the end worked on Data Pipeline (Batch+Streaming) to support a DataHub Initiative for the healthcare space. The Pipeline was a spark application built around Kafka and used HDFS as a Sink. Persistence ranged from S3 to Postgres to Kafka.

- -- Scala with spark, spark-job-server, Gatling et al
- AWS (EMR + CF)
- Kafka as Message Bus
- Data Visualiztion using ELK stack

Responsible for designing, implementing this application built on scala 2.11 and spark. Build and Deployment were using an Atlassian Stack in Bamboo and then Gradle to build the artifacts. Additionally at this company I also worked on projects that included Search Infra (Elastic Search) and a Readmission application using Node.js/Java/Guice, Spring.

Previous to this I worked at Escalation Point (Java Developer), Zilliant (Solution Architect in Price Optimiation), SiteStuff Inc (Developer/Development Manager), Fusion Learning Systems (Technical Architect), IBM (Appication Developer), Trilogy Software (Developer/Consultant). These experiences stretched from 1998 through 2012.

Fluent with

- Scala (Typelevel + Zio)
- Java
- Spark (unfortunately)

Familiar with

- Python
- GoLang
- JS (Node + React)

Interested in

- Pure Functional Programming
- Category Theory
- Evolving at FP
- Machine Learning in the Stream (Storm + Flink + Apache Heron + Google Data Flow)

Educational Info

- **Degree from University of Texas at Austin:**
  1. BS - Computer Science with minor in Math
  2. BA - Economics

Hobbies/Interests

I have interests...cooking, traveling, yoga, rainforests, road biking, music

References

Please contact me at asachdeva@utexas.edu