Ravi Gyani

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Quick Summary

- 20+ years in software engineering, specializing in **Cloud Computing**, **Serverless solutions** and Big Data.
- Reputed as a **Problem Solver**, bringing out-of-box approaches to system design
- Focused on **optimizing performance** and designing **cost-effective** architectures.
- Advocate for validating ideas via **proof-of-concepts** (POCs).
- Firm believer that knowledge shared is knowledge squared.

Technologies

- **AWS Expertise:** IAM, EC2, S3, Lambda, Step Functions, Batch, API Gateway, AppSync, DynamoDB, IoT, EventBridge, CloudWatch, RDS, Aurora, Redshift, Glue, Athena, ECS, Elastic Beanstalk, CloudFront, Route 53, ECR, EMR, Kinesis, Greengrass and more.
- **Infrastructure-as-Code** : Docker, CDK, Terraform, CloudFormation
- **Big Data:** Hadoop Ecosystem, HBase, Kafka, Spark, Cassandra, Redis
- **Programming Languages:** Python, Java, TypeScript, Go, Node.js

Certifications

- AWS Certified Security Specialty (SCS-C01) - Mar 2023
- **AWS Certified Solutions Architect Professional (SAP-C01)** - Oct 2020
- AWS Certified Solutions Architect Associate (SAP-C02) – Oct 2020
- Databricks Certified Developer: Apache Spark 2.X – Jul 2019
- Confluent Certified Developer for Apache Kafka – Jul 2019

Education

Bachelors of Engineering (Netaji Subhas Institute of Technology, Delhi) 1999-2003

Awards

Received Top-Performer Awards multiple times throughout my career

Work Experience

Senior Solutions Architect at Luxoft GmbH, Munich, Jan 2021 – July 2024 *
Consulted for customers such as Amazon, BMW, Continental and Volkswagen.

Key Responsibilities and Achievements:
- **Cloud Solutions and Architecture:**
    - Designed, engineered, deployed **Serverless** architectures using Python, Java, CDK and AWS services, ensuring high availability and scalability.
    - Streamlined multi-account/multi-environment code deployments with CDK and AWS CodePipeline, ensuring faster and error-free delivery cycles.
    - Conducted architecture reviews providing actionable insights to enhance systems' performance and reliability.
    - Contributed to **presales processes**, including solution design, POC development, and cost/time estimation.
- **Automation and Cost Optimization:**
    - **Automated repetitive tasks**, such as custom AMI generation using AWS Step Functions, improving developer productivity and minimizing errors.
    - **Redesigned** a batch computing service using Airflow, Batch, Docker, and EFS, **achieving a 90% cost reduction** by leveraging S3 runtime mounts, Step Functions, and Spot Instances.
    - **Optimized** mission-critical DynamoDB tables with direct API Gateway integrations, **reducing response times to 10ms.**
    - Designed a **custom RBAC solution,** leveraging the internals of Cognito to reduce effort and cost and improve scalability
- **Big Data and Machine Learning:**
    - Migrated a legacy GCP application to AWS, implementing ETL pipelines to process and prepare data. Applied machine learning algorithms to derive actionable metrics from incoming data streams.
    - Implemented **distributed machine learning** solution for fault detection using AWS IoT Core, ECS, and Greengrass.
- **Innovation in Solutions and Tooling:**
    - Designed a custom in-vehicle support solutions leveraging AppSync and Chime for real-time communication and support.
    - Built a custom Grafana plugin (Go and Angular) to query MapR clusters via Drill REST API, enhancing data analysis workflows.
    - Developed a custom Zeppelin interpreter (Java and Angular) for Git interactions, solving critical development challenges.
    - Engineered the migration of a legacy application to **event-driven architecture** with EventBridge, facilitating real-time processing, achieving improved scalability and reduced dependency bottlenecks.
- **Leadership and Training:**
    - Delivered IaC and Serverless workshops, focusing on CDK and Terraform.
    - Conducted **knowledge-sharing sessions**, fostering skill development and promoting innovation within teams.

Solutions Architect at Polaris Wireless, Bangalore, Feb 2014 – Aug 2020
Designed, Engineered, Delivered an innovative scalable big data solution

Key Responsibilities and Achievements:

- Initially joined as an iOS/Android Tech Lead, identified scalability issues with the company's SQL Server-based product for data storage and processing. Took up the challenge to build a Big Data Solution to address these concerns.
- Developed the first **proof of concept (POC)** for a scalable Big Data solution, successfully presenting the idea to both management and clients, and oversaw its first deployment on-site.
- **Big Data Solution Development**:
  - Built a bare-metal Big Data solution to store and profile mobile location data for mobile users of a country, tailored for use by investigative agencies.
  - Leveraged technologies such as Hadoop, HBase, Kafka, and Spark. Evaluated via POCs Cassandra, MongoDB and Solr.
  - Developed the entire product using Java, and Scala, incorporating KPIs and benchmarking for ingestion and performance.
  - Led a team of nine engineers, ensuring efficient development, deployment, and delivery.
- **Microservices and Algorithms**:
  - Designed and implemented microservices to generate profiles and algorithms for comparison of profiles in near-real time.
  - Algorithms identified familial, communication, and location patterns among subscribers, **earning recognition as a named contributor on a patent**.
  - Optimized the system using distributed computing technologies, including MapReduce and Spark, with HBase over Hadoop for storage and Kafka as the communication backbone.
- **Next-Generation Solutions:**
  - Pioneered a new version of the product with in-line profiling during data ingestion via Apache Spark
  - Leveraged AWS services such as S3 for storage, EMR for processing large-scale data, and MSK for ingestion pipelines, driving the evolution of the next-generation product
  - Integrated advanced cardinality solutions (Count-Min Sketch, Bloom Filters, HyperLogLog) for efficient data profiling and storage optimization.

iOS and Android, C# Winforms developer, 2003-2014**

** **Founded KNOCKS Solutions (2006- 2009)** developing third party .NET Winforms Components Suite, like Outlook style Calendar, Visual Studio like Docking Extender, Office style Ribbon Control, Winamp like Skin-extender and various meters and gauges UI components

* Took a 6-month break from July 2024, to experiment with **Godot Game Development**. Developed some games listed at https://rgyani.com. While not commercially successful, the experience enriched my problem-solving and performance optimizing skills.