

# Mayank Raj

Lead Member of  
Technical Staff,  
Security @ Salesforce,  
SaaS Founder




Experienced Software Engineer specializing in high-performance AI/ML and Big Data solutions, with expertise in designing resilient, fault-tolerant cloud infrastructures.

Regular conference speaker, trekking enthusiast, and violinist.

BigData | AWS | Cryptography | System Architecture | Distributed Systems | Serverless Systems | Tech Author

## Creator & Maintainer of...

 [Apptale.io](https://apptale.io)

 [ThePostRoster.com](https://thepostroster.com)

JavaScript, NodeJS, Python

AWS, GCP, EC2, ECS, S3, Lambda,  
Redshift, Kinesis, API Gateway,  
CloudFormation etc

GrayLog, Sentry, CloudWatch, X-Ray

RDS, PostgreSQL, RedShift,  
DynamoDB

Neo4j, AWS Neptune, DGraph

Cost effective, Secure and Reliable  
Infrastructure Design, Serverless  
Architecture

Reproducible Infrastructure -  
CloudFormation, SAM, CDK  
Docker, Git

Cryptographic Key Management,  
Cryptographic Protocols,  
Public Key Infrastructure

Violinist, Trekking, Autonomous  
Drones, Custom Keyboard

Core Contributor to Firefox

Authoring book titled "Hands on AI  
Projects" with O'Reilly

## Salesforce

Lead Member of Technical Staff

March '22 - Present

Salesforce is a leading cloud-based CRM platform that streamlines customer relationship management and business operations, and includes subsidiaries like Slack for team collaboration and Tableau for data visualization.

- **Role:** Founding engineering leader, KMS team India. Beyond core technical leadership, I owned Agile operations (sprint planning, grooming, retrospectives).
- Key Contributions:
  - Led efforts to **improve service availability from 99.99% to 99.999%**.
  - Architected and developed benchmarking tools and caching layers, **increasing system throughput by 42%** and **reducing costs by 71%**.
  - Optimized cost-to-serve, resulting in **savings of ~\$1.6 million/Yr**.
  - **Integrated KMS to application mesh across 30+ data centers**, overseeing R&D, monitoring, resilience, disaster recovery and communication.
  - Supported the service with 12x7 on-call duties, managed various P0-P4 incidents, and drove RCAs across the organization.
- Additional Involvements:
  - Participated in global hackathons, reaching finals and serving as a judge and mentor at global Salesforce level.
  - Built an AR bot assisted by LLMs for Salesforce conferences, used by over 470+ unique users across 4 conferences

## Cactus Communications

Associate Director of Engineering (Principal Solutions Architect)

July '20 - March '22

Cactus is a technology company accelerating scientific advancement. With offices in London, Princeton, Singapore, Tokyo, and Mumbai; a workforce of over 3,000 experts.

- **Led a cross-functional team of 15+ engineers in India and Denmark.**
- Bridged the gap between the business and tech; bootstrap projects from the idea stage to enterprise scale, oversaw hiring across verticals
- Architected BigData platform capable of **ingesting 1.5Tb/week** and **generating 4.5Tb/week**, efficiently **managing a 250Tb data lake**.
- Developed a data processing pipeline for machine learning applications using **24K vCPUs and 48Tb of memory, processing 4.5Tb of data** in under 2.5 hours at **20% of the anticipated cost** from AWS BigData team.
- Architected a truly serverless highly available API that orchestrates **~100K of long running requests with sub-second SLA**

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MayankRaj.com

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## Apptale.io

Founder / Creator & Maintainer

Publicly released on Dec '20

- Sideproject grown out of personal need, now used to monitor services by many
- Designed architecture to offered as a SaaS at **1/15th the cost of competitors**
  - Designed a monitoring service with **orchestration across all 51 AWS availability zones**, ensuring high availability.
  - API layer built with support for GraphQL & REST, global database via DynamoDB and payment & subscriptions via Stripe
  - **Built with Amplify, CloudFormation, Appsync, API Gateway, DynamoDB, Lambda** and more

## Cactus Communications

Solutions Architect

May '18 - Jun '20

- Reported to the CTO
- Designed and **developed a graph database** engine that **queries ~8Tb of raw data in under \$30/query** with avg query time of 8 minutes
  - Benchmarked to **outperform Neo4j and AWS Neptune**, in cost and speed
  - **Collaborated with the AWS Neptune** team on benchmarking
- Designed and maintained the infrastructure of projects that achieved state-of-the-art scores in Natural language Detection & Correction, NLP and Vision
- Established best practices and guidelines for cloud operations across AWS, Azure, and GCP, and standardized infrastructure templates
- Reported and **worked with AWS S3 team** on fixing bug on prefix throughput
- Developed microservices spread across Windows and Linux

Senior Software Engineer

Jul '16 - Apr '18

- Built clickstream application with AWS Kinesis and Redshift. Designed to **ingest ~5M records/day**, operating at **under \$9/day**.
- Designed daemon to **monitor** activities on **45+ web properties and 12+ servers**
- Developed Data Lake with Hot and Cold Storage layer to optimize for cost and data availability. Manages over **4Tb+ data, powering 120+ Dashboard** for BI
- Designed and built a service that connects any user on the same page, in real-time using web sockets. Service **scaled from 47 users to 2.7K in 36 minutes**.

## Directi

Software Developer - Consultant

May '16 - Jul '16

- Designed and developed a full stack application to handle recruitments and track the candidate from the time they enter to the time they are hired
- Also handle walk-in candidates by generating their profiles on site

WorkAmp, AIESEC, Frapp.in,  
TCS, HamaraEvent...

Software Developer - Consultant

Feb '14 - Apr '16

## Education

Bachelor in Technology, Computer Science  
NMIMS University, Mumbai, India



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