Harkanwalpreet Singh

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Experience

Senior Software Engineer

Bazaarvoice   **Aug 2022 – Present**

- Designed and implemented a feature that deletes all user data from the system after a certain configurable time. Leveraged Step Functions to invoke time based deletions, alongside Lambda, Fargate tasks.
- Introduced Cache Invalidation feature for each client led media gallery. Changed the key construction in Redis from String to Hash based which can be linked to each gallery and used Cloudflare Cache Invalidation API to invalidate CDN cache. This feature led to onboarding of clients in News business which required instant publication of news articles on their website gallery.
- Designed and Implemented Automated Facebook/Instagram Rights requests commenting, enabling clients to request rights from User's content of Social platforms like Instagram. The main highlight of this feature was client specific queues implemented using RabbitMQ and implementing rate limiting Facebook Graph API requests to prevent spamming.
- Designed Transcription and Translation service, using MediaConvert to extract Audio from Video files and Kinesis stream based approach for transcribing/translating the audio tracks to WebVTT files using OpenAI Whisper API.
- Generative AI Captioning: Led this effort from a POC to Production feature, using OpenAI api's to generate captions for client's Instagram Posts. Worked closely with the ML team to implement prompts on the fly for each client's specifications.
- Contributed and fixed 4 out of 5 system outages, ranging from making quick code fixes to fixing data streams and quickly building tasks for backfilling lost data.
- Reduced Infrastructure costs by about 20%, by implementing Content Tracking Service, which deletes the unused media and metadata files, this involved using retention policies for unused data, publishing deletion events to kinesis and Lambda consumers for deleting data.

Software Engineer II

Morgan Stanley   **Jan 2021 – Aug 2022**

- Designed and developed data distributing API for financial reporting. This involved setting up Redis Cluster for on demand data, building an ETL for masking PII for clients and maintaining data link APIs for invoking data requests, using Python (FastAPI).
- Automated table, view & stored proc deployment on Teradata. Designed general purpose classes/functions for database connection, DDL changes, and config update with Jenkins integration.
- Automated Informatica (ETL) code change deployment. Current architecture of design and deployment involved manual steps. This reduced the time taken by the ETL team to deploy their changes by 75%.
- Replaced CRON-based jobs with message queues using Apache Kafka for upstream data changes. This led to a reduction in data lag of up to 90% for downstream consumers.

Software Engineer
Morgan Stanley   **Apr 2019 – Dec 2020**
- Built a query simulator for Teradata to test performance in production before deployment. Logged queries were indexed on ElasticSearch using Logstash, then emulated in production using a Scala pipeline.
- Contributed towards Morgan's internal ETL Tool, written in Python and Perl.
- Developed a Python script to migrate a codebase from Perforce to Git. The challenge was retaining Perforce commit history.

Software Analyst
Capgemini   **Sep 2018 – Mar 2019**
- Used TabPy to integrate and automate Tableau dashboards for HR department reporting.
- Had Industry level core Java training for 5 months.

Skills

Languages/Markup
Python, Java, Scala, Javascript, C, C++, Bash, Perl, HTML, CSS, XML, JSON, YAML, SQL

Frameworks/Tools
JIRA, Docker, Jenkins, Spark, Hadoop, Kafka, Cloudflare, Datadog, SpringBoot, Finagle & Finatra - Scala based Twitter Framework, Jupyter, AWS: EC2, Fargate, ECS, Kinesis, SQS, SNS, S3, Cloudfront, Dynamo, KMS, Lambda, Step Function, ElasticSearch, RDS, Redis, RabbitMQ, RDBMS - MySQL, Postgres, MariaDB, Teradata, IBM DB2, Sybase, React, NodeJS, Terraform, GIT

Education

Indian Institute of Technology (IIT) BHU, Varanasi   **Jul 2014 – May 2018**
B.Tech. in Civil Engineering   CGPA: 7.8

References

- AI Image Captioning for Instagram
  https://www.bazaarvoice.com/blog/generative-ai-keep-authenticity-and-transparency-paramount/
- Automated Rights Request -
  https://www.bazaarvoice.com/products/social-commerce/#:~:text=Automated%20content%20rights%20requests%20for%20Instagram

Recognitions

- Global Engineering Recognition - Bazaarvoice
- Global Gong Award - Bazaarvoice
- Highest Rated Employee for 2 consecutive years - Capgemini/Morgan Stanley