VARUN SHAH

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Education

Dharmsinh Desai University, Nadiad   **09/2016 – 05/2020**
Bachelors of Technology in Computer Engineering   *GPA: 8.62/10*
Coursework: Advanced Algorithms, Operating Systems, Database Systems

University of Massachusetts, Amherst   **09/2022 – 05/2024**
Master of Science in Computer Science   *GPA: 3.67/4*
Coursework: Algorithms for Data Science, Natural Language Processing, Information Retrieval

Technical Skills

Languages: Java, Golang, Python, C, C++, Ruby on Rails
Database: MySQL, OpenSearch, Redis, DynamoDB, DAX, Postgres, Kafka
Web Technologies: Spring Boot, Flask RESTful, gRPC, AWS Cloud services
Software & Tools: GitHub, Jira, Confluence, Docker, Kubernetes

Experience

Confluent   **06/2023 – 08/2023**
Software Engineering Intern   *Seattle*
- Interned with the control-plane team owning the provisioning of Kafka.
- Worked on data remodelling for the physical cluster APIs. This helped decouple from the formerly used monolithic service.
- Migrated an API to the new microservice. Performed extensive testing using a script that can be further leveraged for stress testing and integration testing in the pre-production environments.
- Got an in-depth exposure to Golang and it's best practices.

Swiggy   **01/2021 – 08/2022**
Software Development Engineer - 1   *Hyderabad*
- Corrected and implemented the low-level design of one of the most critical services [$throughput > 100k$].
- Delivered various business critical projects that brought in significant revenue gains per order. The proposed high-level design made the application level rendering faster by 200ms.
- Worked actively on Ads re-Architecture plan, by suggesting and owning the solution to reduce the error percentage during ads serving[10% to 0.01%]. Leveraged the existing Elasticsearch, which decreased the negative caching at DAX [Cache miss went down to 0]. This minimized the read-unit consumption, which lowered the overall AWS cost.
- Improved the cache design that can account for the multiple points of failures in the system, making it reliable and further scalable.

Delhivery   **01/2020 – 07/2020**
Backend Engineer   *Hyderabad*
- Bootstrapped a service and added integrations with AWS Kinesis to consume the events and update the data in the DynamoDB table.
- Wrote and owned the entire backend for the dock management system, bringing down operational costs. Incorporated design patterns and refined the service from the extensibility point of view.
- Worked with Python - Flask Restful framework and a few AWS services (Kinesis, DDB, PostgreSQL)

Amazon   **01/2020 – 07/2020**
Software Development Engineering Intern   *Bengaluru*
- Helped redesign the DynamoDB schema. Querying on this new schema improved the system's performance.
- Owned the automation syncronization of the parent and child orders, enhancing operational efficiency.
- Got an exposure to several AWS services[DynamoDB, Lambda, MySQL, Cloudformation, Step-function, Cloudwatch, S3, SQS, SNS] and frameworks like [Spring & Dagger].

Projects

RAG retriever | *Natural Language Processing*   **February – May 2023**
- Experimented with various Retriever-Augmented-Generators for the task of Large Language Modeling.
- Demonstrated the enhancement of language generation results using neural retrievers.

IPassword Manager | *Microservice, Cryptography, C#, .NET, JSP*   **February – April 2019**
- Write about your project experience.
- Write about your project experience.

Certifications

Certificate 1: CodeChef Certified Data Structure & Algorithms Programme (CCDSAP)