Dishank Oza

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EDUCATION

Santa Clara University   Santa Clara, USA
Master of Science in Computer Science and Engineering (**GPA** - 4.0/4.0)   Sept 2024 - June 2026
- Relevant coursework**:** Object Oriented Analysis, Design and Programming, Database Systems.

University of Mumbai   Mumbai, India
Bachelor of Engineering in Computer Engineering (**GPA** - 3.5/4.0)   Aug 2017 - June 2021
- Relevant coursework**:** Data Structures, Advanced Algorithms, Distributed Computing, Machine Learning.
- Final Year Project: Gesture-Based Interaction System (Published in Springer: Publication link)
- Member of Team Vaayushastra, ranked 9th globally and 2nd in the Asia-Pacific region in the SAE Aero Design Competition 2020.

PROGRAMMING SKILLS

- **Certifications:** AWS Certified Developer Associate, Scrum Alliance-Scrum Foundations, Discovering Backend Bottlenecks
- **Frameworks & Libraries:** React, Nextjs, Tailwind, Spring Boot, Protocol Buffers, GraphQL, NodeJS
- **Languages & Database:** Java, TypeScript, JavaScript, Python, C/C++, SQL, MongoDB, Neo4j, Redis
- **Tools & Others:** Amazon Web Services (AWS), Firebase, Terraform, Docker, Kubernetes/EKS, Jenkins, Jest

EXPERIENCE

Research Assistant   Oct 2024 - Present
Frugal Innovation Hub Lab @ SCU   Santa Clara, USA
- Implemented a document upload and retrieval system with **MongoDB GridFS and Next.js** APIs for the university project management dashboard, enabling dynamic storage and optimized data handling.

Senior Software Engineer   May 2023 - Aug 2024
Freespace   Mumbai, India
- Led a team of 4 in agile development, engineering business-critical features, overseeing development, and release of product features; recognized as **Freespace Captain** for exemplary leadership and problem-solving.
- Architected and developed a microservice to streamline booking events using **AWS DMS CDC, Kinesis**, and **EventBridge** to distribute event generation from **30 to 1 events per user daily**, optimizing resource usage and system efficiency.
- Revamped API transaction handling by replacing serialized locks with **Redis distributed locks** in a **Spring Boot** application, reducing database load and improving concurrency, cutting application initial load time from **30 to 9 seconds** during peak times.
- Pioneered **scalable system architecture** by designing and implementing the migration of booking APIs to an **event-driven architecture** with **AWS SQS FIFO** and **Lambdas**, reducing server count from **12 to 8** during peak time.

Software Engineer   June 2021 - May 2023
Freespace   Mumbai, India
- Led migration to SPA with **React routing**, route-based and custom **Webpack code splitting, HOCs**, doubling first-load speed and improving repeat visits by **10 seconds.**
- Developed a custom frontend component library created with **React, TypeScript, and Storybook**, delivering tailored branding styles for clients and boasting UI consistency and development efficiency.
- Designed and implemented a **serverless** notification system leveraging **AWS Lambda, SQS, SNS, and SES** for scalability, with multi-channel support (email, push, SMS) and a **CloudFormation stack** for automated infrastructure provisioning.
- Developed RESTful APIs using **Spring Boot and GraphQL** for an enterprise application serving **100,000+** users across **30+** global clients, managing up to **5,000** concurrent requests per minute.

PROJECTS

- MonkeyLang Interpreter (ongoing)**:** Building an **interpreter** in **Go**, featuring **lexical analysis**, **parsing,** and **AST evaluation**, with support for **custom scripting** including variable bindings, control flow, functions, and a **REPL** for real-time code execution.
- SpaceLink**:** Developed a 2D virtual space platform for real-time avatar interactions, with **WebSockets** and **Protobuf** for efficient data transfer. Integrated video calls via **WebRTC** and managed data with **PostgreSQL**, using **TypeScript, Prisma, and Next.js**.
- InfraBoost**:** Built a developer utility to provision **AWS** infrastructure on demand in **under 2 minutes** using **TypeScript, GraphQL** API, **Terraform** templates, and a **Next.js** frontend, deployed with **Docker.**

ACHIEVEMENTS, AWARDS, AND LEADERSHIP

- **Awarded Freespace Captain** for successfully leading the team, utilizing exceptional problem-solving skills, and ensuring timely delivery of project deliverables
- **3rd** in **Smart India Hackathon** qualifier 2020 for license plate recognition and automated parking system using Raspberry Pi.
- **1st in Technical Paper Presentation**, Crescendo 2021 held in Fr. Conceicao Rodrigues College of Engineering.