

Tushar Singh

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Education

San Jose State University

Jan 2025 – Present | San Jose, CA

Masters in Computer Software Engineering | GPA: 3.7/4.0

- **Coursework:** Enterprise Distributed Systems, Software Systems Engineering, Enterprise Software Applications

Experience

Software Engineer, Tekion Corp

July 2022 – Dec 2024 | Bengaluru, India

- Drove a **30% increase in user adoption** for Tekion Pay by architecting a real-time transaction status feature that boosted user trust. Optimized the system by migrating from a **3-second short polling interval to Server-Sent Events (SSE)**, cutting perceived update latency by **over 80% ($\geq 3s$ to $< 500ms$)**.
- Implemented **Module Federation** across the **microfrontend monorepo** to enable dynamic code sharing and independent team deployments, reducing initial application bundle sizes by **30%**.
- Boosted page performance by architecting a hybrid rendering strategy for the vehicle comparison page, improving the Google Lighthouse score by **over 30 points**. This was achieved by optimizing for Core Web Vitals, cutting **Largest Contentful Paint (LCP) by 60%** using Static Site Generation (SSG) for initial loads.
- Designed and implemented 10+ interactive user interfaces using **NextJS, React & Material UI** primarily leveraging **Client-Side Rendering (CSR)** to create a dynamic, app-like user experience that led to a **20% increase in user engagement**.
- Developed a feature leveraging **local and session storage API's** to persist user vehicle builds and customizations, ensuring seamless state preservation and retrieval across browser sessions.

Engineering Intern, Tekion Corp

Jan 2022 – Jun 2022 | Bengaluru, India

- Collaborated with frontend team on a project aimed at streamlining dealer onboarding processes, resulting in a significant reduction in company's costs associated with dealer onboarding.
- Integrated a **configurable front-end UI** into the Account Receivables module using **TypeScript & React**.
- Authored comprehensive Unit tests with **Jest and React Testing Library (RTL)** to ensure code quality.

Technical Skills

Programming Languages: JavaScript(ES6+), Java, C++ , Python, SQL, Data Structures, Algorithms

Frontend: React, Next.js, Redux, Tailwind CSS, Sass, Material UI

Backend: Spring, Spring Boot, FastAPI, Spring JPA, JDBC

Databases & Message queues: MySQL, NoSQL, Redis, RabbitMQ, Kafka, MQTT

Software Tools: Git, Docker, Kubernetes, Figma, IntelliJ, Postman, Jenkins

Academic Projects

Customer Support Analyzer [RAG based Application]

🐙 GitHub

- Architected a full-stack semantic search engine, featuring a **Python/FastAPI** backend to power a **Retrieval-Augmented Generation (RAG)** pipeline to enable natural language queries on a knowledge base of customer support tickets.
- Combined Google's **gemini-1.5-flash-latest LLM** with a **ChromaDB** vector database and '**sentence-transformers**' to deliver context-aware resolution from a knowledge base.
- Engineered a responsive frontend using **Next.js** and **React**, allowing users to submit queries and view AI-generated answers alongside original source support tickets for verification.
- **Technologies Used:** Python, FastAPI, Next.js, React, Vector Database(ChromaDB), Google Gemini API, Sentence-Transformers, Hugging face, Tailwind CSS.

BookTable [Restaurant Booking Application]

🐙 GitHub

- **Led key frontend development:** Established the UI project, **dockerized** frontend, built core user interfaces (Login, Homepage, Profile), and engineered dynamic restaurant search and discovery by integrating **Google Maps API**.
- Developed backend REST APIs in **Spring Boot** for user registration, booking, and restaurant search functionalities. Leveraged **Spring JPA and JDBC** to connect and perform CRUD operations on a **MySQL** database for data persistence.
- **Technologies Used:** Spring boot, JDBC, MySQL, Gradle, NextJS, React, Docker, NPM, Google Places API.