Tushar Singh

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Professional Summary

Software Engineer with over **2.5 years of experience** delivering high-performance features and integrating AI, LLMs with Python. Proficient in modern frameworks (Next.js, React.js, SpringBoot, FastAPI) with a strong foundation in algorithms, data structures, and automated testing. Eager to contribute analytical and problem-solving skills to a collaborative, high-performing team.

Education

San Jose State University   **Jan 2025 - Present**
MS, Computer Software Engineering, **GPA:** 3.7/4.0   *San Jose, CA*
Coursework: Enterprise Distributed Systems, Software Systems Engineering, Enterprise Software Applications

Experience

Tekion Corp   **Jul 2022 - Dec 2024**
Software Engineer   *Bengaluru, India*
- Built and optimized real-time transaction status from short-polling to **Server-Sent Events**, reducing latency from over 3s to less than 500ms and increasing Tekion Pay adoption by 45%.
- Implemented **Module Federation** across a **microfrontend monorepo** to enable dynamic code sharing and independent team deployments, ensuring secure and scalable integration while reducing initial application bundle sizes by 33%.
- Engineered a **hybrid rendering strategy (SSG + CSR)** for the vehicle comparison page, which improved performance from **'Poor' to 'Good' in Google Lighthouse** and decreased LCP by 60%.
- Developed 10+ interactive user interfaces using **Next.js, React.js & Material UI** primarily leveraging Client Side Rendering(CSR) that led to significant increase in user engagement.

Tekion Corp   **Jan 2022 - Jun 2022**
Engineering Intern   *Bengaluru, India*
- Integrated a **JSON-driven configurable forms** engine that applied dealer-specific region and business logic to render data-driven, customized inputs and fields, cutting new dealer setup and configuration time by an estimated 55%.
- Authored comprehensive unit tests using **Jest and React Testing Library (RTL)** to verify code correctness and achieve over 85% code coverage on the Account Receivables module.

Technical Skills

- **Programming Languages**: JavaScript(ES6+), Java, C++, Python, SQL, Data Structures, Algorithms
- **Frontend**: Next.js, React, Redux, DOM, HTML, CSS, Sass, Atomic Design, Material UI
- **Backend**: Spring, Spring Boot, FastAPI, Spring JPA, JDBC, Restful APIs, Microservices
- **Databases & Message Queues**: MySQL, NoSQL, Redis, RabbitMQ, Kafka, MQTT
- **AI / ML**: LLMs Integration, LangChain, Vector Database(ChromaDB), Gemini, Google AI Studio, sentence-transformers
- **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 and achieving 80% accuracy in generating context-aware responses.
- 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.
- 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, Home-page, Profile), and created dynamic restaurant search and discovery by integrating **Google Maps API**.
- Implemented 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.