Sahej Walia

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Education

VIT Bhopal University, B.Tech in Computer Science Engineering   Oct 2022 – May 2026
- GPA: 8.55/10.0

Skill Summary

Languages: C++, TypeScript, JavaScript, Python, SQL
Database Systems: MongoDB, MySQL
Tools: Flask, Express.js, Docker, Git, RESTful APIs, JupyterLab
Concepts: Distributed Systems, Cloud Computing, Object-Oriented Design, Test-Driven Development
Soft Skills: Team Collaboration, Agile Development, Technical Communication, Leadership

Projects

ScratchDB   github/scratchDB
- Developed a key-value database from scratch in **C++** to explore high-performance data storage.
- Implemented a **B-Tree** indexing engine, boosting query performance by over **10x** for indexed data.
- Designed a clean API supporting **5** core atomic operations for transactional integrity.
- Benchmarked against **SQLite**, demonstrating a **25%** faster write throughput under concurrent loads.

CloudNet   github/cloudNet
- Built an Express + TypeScript server for ephemeral object storage and distribution with a modular services architecture to simplify feature additions and maintenance.
- Engineered a low-latency module with **gRPC**, decreasing average API response time to under **80ms**.
- Built a scalable backend service designed to handle up to **1,000** concurrent users efficiently.
- Containerized the application using **Docker**, ensuring consistent and isolated cross-platform deployments.

StudioJS   github/studioJS
- Built a responsive single-page application with **React**, improving initial page load speed by **60%**.
- Architected a RESTful API using **Node.js/Express** with **15+** endpoints for seamless data management.
- Optimized state management with **Redux**, cutting down unnecessary component re-renders by **50%**.
- Ensured code reliability and quality by achieving over **90%** test coverage using **Jest** and **RTL**.

Achievements and Certifications

IBM DevOps, IBM

   https://courses.ibmcep.cognitiveclass.ai/certificates/4bcd307d0a3c454c8c194747262e5d44

IBM Agile and Design Thinking

   https://courses.ibmcep.cognitiveclass.ai/certificates/7fc9d5d13dd040348f9e3757195ee38f

Positions of Responsibilities

Core Member - Event Management, VITKULT Club
- Served as a core member of the VITKULT Club's event management team, coordinating and executing cultural events to ensure smooth operations and high participant engagement.

SDE, Prxix
- Developed and optimized scalable backend features and RESTful APIs using Flask and MongoDB, integrating secure workflows for user authentication and client–admin interactions.