ADITYA SINGH

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Summary

Full-Stack Software Engineer with 2+ years of experience designing scalable, high-performance distributed systems. Skilled in building fault-tolerant, high-throughput services using Node.js and React, with experience in messaging queues (Kafka, RabbitMQ) and distributed caching systems like Redis and Memcached. Proficient in developing modern, responsive frontends and robust backends, supported by CI/CD pipelines and containerized deployments. Proven ability to drive end-to-end feature ownership, improve system reliability, and deliver measurable business outcomes while mentoring teammates and leading architectural initiatives.

Skills

Languages : Assembly, C/C++, JavaScript, Python, TypeScript, Ruby, Java, HTML, CSS
Databases : MongoDB, MySQL
Libraries/Frameworks : Angular, ReactJS, NodeJS, NestJS, ExpressJS, Fastify, Springboot, Ruby on Rails, Django, Flask, FastAPI, CUDA
Tools: Git/GitHub, Linux, JIRA, Postman, Jenkins, Sonarqube, AWS, Azure, GCP
Others: AI/ML, GenAI, Object Oriented Programming, Operating Systems, System Design, Design Patterns, SDLC, Data Structures, Agile, Waterfall, Scrum, Kanban
Soft Skills: Teamwork, Resilience, Communication, Problem Solving, Leadership

Experiences

EPAM Systems
Software Engineer

April 2024 – Present
Hyderabad, Telangana

- Contributed to a new E-commerce microservices architecture design, helping implement a component that reduced data processing latency by 30% for our most active users.
- Implemented a centralized logging and error handling module in NestJS, which improved system observability and cut the team's debugging time for production issues by over 50%.
- Integrated both REST and GraphQL APIs from BigCommerce within a serverless workflow using NestJS and Azure Functions, creating a robust backend for processing high-volume e-commerce transactions.
- Upgraded and refactored over 41 components from React 16 to 18, achieving a 20% reduction in application load times and enabling the use of modern features.
- Collaborated with cross-functional teams to refactor legacy services into modular microservices, improving scalability and deployment independence across multiple domains.
- Enhanced API performance by introducing request-level caching using Redis and optimizing database query patterns, resulting in a 25% drop in response times.
- Integrated CI/CD workflows using Jenkins and SonarQube, improving code quality visibility and reducing release cycle time by 30%.
- Developed internal monitoring utilities leveraging Azure Application Insights to track real-time service metrics and proactively identify anomalies.
- Worked closely with architects to design event-driven flows using Kafka for asynchronous data synchronization between services, improving system resilience and throughput.
- Improved unit testing coverage across applications to **92%**, reducing bugs by **50%** and meeting project quality standards.

Altizon Systems
Software Engineer

July 2023 – Oct 2023
Pune, Maharashtra

- Developed responsive data analysis dashboards with Apex Charts, cutting user bounce rates by 25% and improving data accessibility for stakeholders.
- Optimized backend performance by designing and implementing RESTful Ruby APIs with aggregation functions, reducing dashboard data query times by 30%.
- Improved application performance and stability by resolving 50+ critical bugs, focusing on memory leaks and inefficient database queries.
- Refactored legacy frontend code by migrating jQuery-based views to React components, reducing maintenance overhead and improving reusability.
- Implemented secure API authentication and role-based access control (RBAC), ensuring data integrity and compliance with organizational standards.
- Collaborated with QA and DevOps teams to automate build and deployment pipelines, cutting release preparation time.

Projects

AI-based Real Time Deciphering of British Sign Language | *Python, OpenCV, TensorFlow/Keras (final year project)*

- Built an AI system for real-time translation of British Sign Language (BSL) into English text using Python, OpenCV, and TensorFlow/Keras.
- Implemented neural networks (CNNs and RNNs) to recognize and classify BSL hand gestures from webcam video input.
- Outputs recognized signs instantly for effective communication between signers and non-signers.
- Enabled live, on-screen text output of recognized signs, facilitating seamless communication between signers and non-signers.
- Demonstrated practical use of computer vision and AI technologies to improve accessibility for the deaf and hard-of-hearing community.
- Potentially applicable in education, healthcare, customer support, and public service environments where accessible communication is critical.
- Showcased end-to-end application of AI from data acquisition and preprocessing to model training, deployment, and real-world inference.
- A research paper based on this work was published in the American Institute of Physics Conference.

Multithreaded Kernel | *C / C++ | Assembly (Individual Project)*

- This project is a custom operating system kernel designed to run multiple threads in parallel, improving task efficiency and responsiveness.
- Engineered OS kernel modules in C/C++ for efficient resource management and high-performance multitasking, with targeted use of assembly for critical hardware interactions.
- Provides a foundation for building scalable and high-performance software, especially in multi-core and cloud computing environments.
- Contributes to advancements in technology areas like IoT, robotics, artificial intelligence, and telecommunications by enabling concurrent data processing and resource management.
- This kernel serves as a research and educational tool, offering hands-on experience with real OS concepts that are fundamental in today's computing world.

Achievements

- Microsoft Certified: Azure Administrator Associate
- AWS Certified: Solutions Architect Associate
- Codeforces (Specialist)
- AWS Badge: Serverless
- Research Paper (AI/ML)
- GCP Badges: (Qwiklabs)

Education

VIT, Pune, B.Tech in Electronics — **June 2019 − 2023**

CGPA : 8.48, Courses: OOPs, C++, Python, JavaScript, SQL, Machine Learning, ReactJS, OS — *Pune, Maharashtra*