Jairaj Kumar

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Profile

Software Engineer adept at **designing, developing, troubleshooting, and debugging software applications** and systems. Proven ability to build **enhancements within existing software architectures**, with expertise in **distributed systems**, **media streaming**, and **DevOps**. Passionate about optimizing **scalable architectures** and solving complex engineering challenges involving applications, databases, and networks.

Experience

Software Development Engineer 1, Jio Platforms Limited   October 2023 – Present

- **Designed, developed, and maintained** key features within the Media Engine, a core component for **JioMeet** and **JioEvents** applications, utilizing knowledge of **software architecture**.
- **Developed and debugged** a new microservice for **native recording**, reducing server infrastructure costs by 70% and latency by 60%.
- Designed, developed, and implemented a reusable **Load Balancer** SDK, optimizing request distribution across multiple servers, **building enhancements** to improve microservice performance and achieve 99.99% availability.
- Developed, integrated, and troubleshooted a **real-time transcription** service for JioMeet, enhancing accessibility and user experience while ensuring high accuracy and low latency.
- Engineered a robust **peer to peer architecture** for JioMeet and JioRoom, leveraging **TURN server** technology to overcome NAT challenges and ensure seamless connectivity for users.
- Led seamless migrations, including a third-party to in-house media engine transition (reducing 5xx errors by 90%) and a GCP to self-hosted infrastructure migration, designing and implementing network/architectural changes for cost and control optimization.
- Developed and maintained automated **CI/CD pipelines** with Bash scripting and Azure agents, decreasing release cycle time by 25% and improving deployment success rate to 99.9%.
- Diagnosed and resolved critical **production issues** (memory leaks, high CPU usage, Redis data inconsistency, concurrency bugs) by leveraging **monitoring services** (Node Exporter, cAdvisor, Prometheus, Grafana), performing root cause analysis to identify underlying issues, and implementing effective solutions, ensuring platform stability and performance; decreased CSM issues by 75%.

Intern, Cognizant Technology Solutions, Pune   January 2023 – May 2023

- Contributed to **developing and debugging** features for a MERN stack web application, using React to implement dynamic data loading and booking functionalities.

Data Science Intern, Innomatics Research Lab, Hyderabad   April 2021 – July 2021

- Contributed to the **design and development** of a music recommender system application.
- Utilized collaborative and content-based filtering techniques to mitigate the cold start issue and enhance personalized recommendations.

Skills

- **Programming Languages:** Python, Javascript, TypeScript, Bash, Java, C++,
- **Web Technologies:** Node.js, Express, WebSocket, REST APIs, NGNIX, Flask, Django, HTML, CSS, JavaScript, React.js, Bootstrap
- **Databases:** MongoDB, MySQL, Redis
- **Tools:** Docker, Ansible, Git, GCP, Postman, Grafana, Kubernetes, Azure Pipelines, RabbitMQ, ElasticSearch, CI/CD principles, Prometheous
- **Core Concepts**: Linux, Networking, Data Structure and Algorithms, Unit/Integration Testing, Object-Oriented Design, Code Reusability, Agile Methodology, Root Cause Analysis
- **Data Science & ML:** Machine Learning concepts, NLP techniques, Pandas, Matplotlib

Education

Savitribai Phule Pune University   July 2019 – July 2023

B.E. in Electronics and Telecommunication, Hons. in Data Science