

Aman Vyas

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SUMMARY

Detail-oriented software engineer with 3 years of experience delivering full-stack and cloud-native applications. Proven track record in building scalable systems, simulation platforms, and intelligent tools using Java, C++, React, and microservices. Recognized for impactful solutions with measurable business outcomes. **Available immediately**

AREAS OF EXPERTISE

Java - Spring Boot - Quarkus - Hibernate - C++ - Python - React.js - TypeScript - Data Structures and Algorithms - Object Oriented Design - Design Patterns - Microservices Architecture - PostgreSQL - MongoDB - Neo4j - GraphQL - Jenkins - Docker - Kubernetes - Apache Kafka - AWS - Azure - CI/CD - MLOps - Deep Learning - Sparql - System Design

EXPERIENCE

- Senior Software Engineer 1** May 2023 - Current
John Deere Pune, India
 - Led a team to build a **Progressive Web App** with **React.js** and **Spring Boot microservices**; containerized services as **Docker Hub images**, deployed on **AKS clusters** via **kubectrl**, integrated **Kafka streaming**, and automated CI/CD with **Jenkins Blue Ocean pipelines**—delivering **\$2.5M/year savings** and winning the **INNOYou Award**.
 - Developed advanced **C++ algorithms** for autonomous field operations with integrated **real-time safety mechanisms**, ensuring high reliability in mission-critical environments.
 - Implemented an **intelligent assistant** using Hugging Face's **BART-large MNLI** and **BERT-based classifiers** to guide users in running simulations **error-free and efficiently**, reducing setup mistakes and improving workflow speed.
 - Optimized core features, cutting latency by **20%** through performance tuning and seamless **API integrations**, while applying **SOLID principles** and design patterns to boost maintainability.
 - Conceived and delivered a **patented innovation** that enhanced product efficiency, scalability, and overall impact.
- SDE Intern** Jan 2023 - April 2023
HireTale Bangalore, India
 - Built a **semantic web application** using **Quarkus**, **Hibernate**, **GraphQL**, and **JPAStreamer**, integrating **machine learning models** to automate hiring workflows and deliver intelligent candidate insights.
 - Established **MLOps pipelines** leveraging **GitHub Actions**, **Docker Compose**, and **Helm** for reproducible model training, deployment, and monitoring across environments.
 - Engineered advanced **data mining modules** (classification trees, clustering, utility trees, association rules) that uncovered patterns and improved decision accuracy.
 - Streamlined **ETL processes** by automating file-to-database pipelines and applied **UNet++ deep learning segmentation**, reducing manual work by over **70%**.

PROJECTS

- SyncForge** July 2024 - Current
Java, Spring Boot, Kafka, Debezium, PostgreSQL
 - Developed **SyncForge**, a microservice module that eliminates the **Dual Write Problem** by ensuring atomicity between database transactions and Kafka event publishing using the **Outbox Pattern** and **Debezium CDC**.
 - Added **idempotent consumers** and **event deduplication** for consistent data propagation across services, achieving **99.99% reliability** under high-load benchmarks.
 - Integrated with existing Spring Boot services to enable fault-tolerant message delivery without modifying core business logic.
- Semantyx** April 2023 - Current
Python, OWL, RDF, Neo4j, FastAPI, R2RML
 - Built an **ontology-driven app** with **OWL/RDF** to capture domain knowledge and enable intelligent data interpretation.
 - Designed **R2RML mappings** to convert relational data into RDF triples, ensuring seamless integration of structured datasets into the semantic layer.
 - Implemented a **Neo4j graph database** for reasoning and contextual insights, and exposed semantic data via a **FastAPI REST service** for external integration.

EDUCATION

- Sardar Vallabhbhai National Institute of Technology, Surat** May 2019 - May 2023
Bachelor of Technology CGPA - 8.57/10