

# TUSHAR DESHPANDE

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## SUMMARY

Backend-focused software engineer with over 7 years of experience designing and building scalable, resilient systems using Java, Spring Boot, Kafka, and cloud platforms like GCP and Azure. Skilled in developing high-performance APIs, event-driven architectures, and real-time data processing pipelines. Comfortable working across distributed systems with a strong emphasis on reliability and observability. Currently deepening expertise in AI and exploring how emerging areas like Generative and Agentic AI can enhance backend intelligence and automation.

## Technical Skills & Tools

Java, Spring boot, Maven, Kafka, KITT, WNCP, Python, Cassandra, Dynatrace, Open Observe, Data Hub, Lenses, TensorFlow, PyTorch, Scikit learn, Element Gen AI, Milvus Lite Vector DB, Generative AI, Agentic AI, Pydantic, LangGraph LangChain, FastAPI

## PROFESSIONAL EXPERIENCE

### Walmart Global Tech

#### Software Developer III.

Nov 2022 - Present

- Architected and implemented a robust technical solution (ARD) featuring a multi-tier, highly scalable, fault-tolerant, and reactive microservices-based low-latency RESTful API using Java Spring Boot and Forklift-Meghacache managed services. The system efficiently handled over 100 requests per second with an average response time of 138 milliseconds.
- Led the migration of a legacy system to a modern, scalable architecture leveraging Java, Spring Boot, Kafka, and NoSQL databases. Employed Reactor Core to build non-blocking, asynchronous API calls, enhancing system responsiveness and throughput.
- Designed and developed a high-performance Kafka message processor to manage large-scale message ingestion and processing. Conducted in-depth data analysis and visualization using Dynatrace, Grafana dashboards, and Splunk for application log monitoring and performance tuning.
- Gained hands-on experience and foundational knowledge in WCNP, Concord, Looper, CCM, Lenses, and Grafana, contributing to system observability and operational excellence.
- Developed an on-call AI agent to automate ServiceNow incident resolution, leveraging **FastAPI**, **LangGraph**, Element Gen UI, and advanced **prompt engineering** to streamline workflows and reduce manual intervention

### KRW Associates / PayTomorrow LLC, Cornelius, NC, USA

#### Software Developer

July 2019 – Nov 2022

- Developed and launched an automated underwriting service that processes over 100,000+ loan and lease applications from merchants, enabling real-time approval/decline decisions and managing risk oversight for millions of dollars annually.
- Engineered RESTful APIs using Java Spring Boot to support manual underwriting workflows for declined applications. Integrated features for document requests and financial audit tracking, resulting in a 78% reduction in customer wait time for re-approvals.
- Designed and maintained secure, scalable MySQL databases (AWS RDS) to store encrypted customer data sourced from credit bureaus such as TransUnion and LexisNexis (Instant ID, Fraud Point, Phone Finder).
- Built a cross-platform mobile application using Flutter, providing customers with tools to manage monthly payments, view lease/loan history, and request buyout amounts—enhancing user engagement and financial transparency.
- Implemented a custom Shopify application to display monthly price estimators on product and cart pages, driving a 30% increase in applications through the Pay Tomorrow Shopify payment gateway

### TATA Consultancy Services, Kolkata WB, India

#### Assistant Software Developer

2017

Aug 2016 – June

- Increased reporting efficiency by 20% by developing a pipeline using REST APIs to analyze PDF content, automatically generate a table of contents, and deactivate hyperlinks using regular expressions.
- Authored MySQL scripts to create event-based triggers for auditing and replicating data across nearly 300 schemas, ensuring data integrity and traceability.
- Automated server monitoring reports using Java Spring and Apache POI, reducing report generation time by 60% and improving operational visibility.

## TECHNICAL PROJECTS

### Agentic AI Chatbot – Context-Aware Q&A System with RAG and LLM Integration

- Developed an agentic AI chatbot using Python, FastAPI (backend), Streamlit (frontend), and LangChain for orchestrating agent workflows. Implemented Retrieval-Augmented Generation (RAG) by integrating Milvus Lite for vector-based document similarity search (Hugging Face Transformers).
- Utilized sentence-transformer embeddings for encoding documents and enabling semantic search over a custom corpus. Integrated OpenAI LLMs via secure API gateway to generate context-aware responses grounded in retrieved documents.
- Enabled multi-step reasoning through agent chaining, simulating human-like breakdown and execution of complex queries. Added features for citation tracking, document preview, and real-time document ingestion to improve transparency and usability.
- Designed a modular, locally deployable system with Conda-based environment isolation and shell script automation. Built an interactive, responsive Streamlit chat interface for seamless end-to-end user interaction and experimentation.

## EDUCATION

### Master of Computer Science

Aug 2017 - May 2019

University of Texas at Arlington

### Bachelor of Technology - Computer Engineering

Aug 2012 - May 2016

SGGSIE&T, Nanded, India

## CERTIFICATION

- **Unsupervised Learning, Recommenders, Reinforcement Learning** (Standford Online | DeepLearning.AI)  
Skills: Deep Learning · Artificial Neural Networks · Unsupervised Learning · Machine Learning Algorithms
- **Supervised Machine Learning: Regression and Classification** (Standford Online | DeepLearning.AI)
- **Advanced Learning Algorithms** (Standford Online | DeepLearning.AI)
- **IBM RAG and Agentic AI Professional Certificate** ( LangGraph, LangChain, RAG, vector db)