

Prasanna Kumar Mandapati | Software Engineer

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SUMMARY:

Detail-oriented and innovative Software Engineer with over 5 years of experience in building high-performance backend systems, integrating complex enterprise solutions, and optimizing data workflows. Proven expertise in Java (up to Java 21), Spring Boot, WebFlux, and microservices architecture. Skilled in developing RESTful APIs, managing large-scale data ingestion from vehicle and enterprise systems, and delivering scalable cloud-based applications using AWS. Strong background in database management with PostgreSQL and MongoDB, including performance tuning and batch processing. Experienced in vehicle data validation, diagnostics integration (2D/3D views), and ensuring data accuracy through robust automation. Adept in IBM IIB and MQ for enterprise integrations and compliance-oriented middleware development. Versatile team player in Agile environments, collaborating with cross-functional teams including QA, frontend, and operations. Committed to delivering secure, efficient, and maintainable solutions that support business goals and regulatory standards.

SKILLS

Programming Languages & Frameworks:

Tools & Technologies:

Web & Cloud Technologies:

CI/CD & Version Control:

Monitoring & Logging:

Methodologies & Practices:

Java 21, Python, JavaScript, Spring Boot, Web Flux, Spring Batch, Spring MVC, ESQL, XSLT

AWS (EC2, S3, SQS, SNS), GCP, MongoDB, SQL Server, Oracle, IBM MQ, IBM Integration Bus (IIB), Spincload, GitHub, Jira, Kafka, Rabbit MQ, PostgreSQL, Redis.

React.js, SOAP, REST, SOAPUI, Postman, FTP/SFTP, HTTP, JMS

Git, TFVC, Jenkins, Docker, Kubernetes, Argo, Red hat Open Shift

Splunk, Power BI, Tableau, Dynatrace, Grafana

Agile (Scrum, SAFe), DevOps, Test-Driven Development (TDD)

EXPERIENCE

Algebra It – General Motors, USA

Mar 2025 – Current

Software Engineer

- Developed backend services to validate and ingest vehicle configuration data from Teamcenter Excel files into PostgreSQL using Java 17, Spring Boot, and JDBC.
- Built automated data validation reports to identify missing engineering codes, inconsistent service descriptions, and unsupported mappings, improving data reliability from 60% to over 95%.
- Designed a high-performance data processing pipeline that reads large datasets, validates their structure, and generates clean JSON outputs for downstream applications.
- Added **parallel processing** to handle high data volumes efficiently, reducing overall processing time.
- Implemented **automatic retry and fallback logic** to recover from failed data reads by reconnecting through alternative data sources when the primary system was not available.
- Created RESTful APIs for the frontend (Angular) to support user review and correction of invalid vehicle data directly from the UI.
- Enhanced overall system accuracy by implementing audit trails (created_by, created_date) and clean re-ingestion workflows.
- Supported the eDiagnostic platform used by service dealers to visualize vehicle 2D/3D diagrams, component layouts, and circuit connections.
- Built **REST APIs** to support frontend applications (Angular/React), enabling vehicle search, 2D/3D visualizations, VIN schematics, circuit diagrams, and wiring harness inspections.
- Tuned SQL queries and implemented batch processing for large datasets, improving ingestion speed and ensuring high system responsiveness.
- Contributed to code reviews, architectural improvements, and performance monitoring across backend services.
- Collaborated closely with frontend and QA teams to deliver robust and user-friendly diagnostic data workflows.

Algebra It - Apple Inc, USA

Feb 2024 – Feb 2025

Software Engineer

- Enhanced system performance by 20% through designing and developing backend systems using Java 21, Spring Boot, and WebFlux, optimizing transaction processing for high-volume operations.
- Collaborated with frontend teams to create RESTful APIs, enabling seamless integration with React.js applications.
- Improved data processing efficiency by deploying ETL pipelines with Spring Batch, handling datasets over 1 million records to meet business requirements.
- Achieved 99.9% application uptime by deploying scalable cloud-based solutions using AWS (EC2, S3) and Spin cloud, optimizing performance and ensuring secure data storage.
- Optimized backend performance, reducing query processing time by 20% through performance tuning and data handling improvements.
- Integrated MongoDB for efficient document storage, ensuring data consistency and high availability.

- Enforced security protocols, including authentication and authorization mechanisms, to ensure compliance with regulatory standards.

Agility E Services Pvt Ltd, India

Jun 2019 – Jul 2021

Software Developer

- Engineered and implemented enterprise integration solutions with IBM Integration Bus (IIB) and IBM MQ, streamlining data exchanges and improving efficiency by 30% for financial and retail clients.
- Established integration flows and web services to automate data exchanges between legacy systems and external applications, improving operational efficiency by 25%.
- Built backend integration services using **Java**, **Spring Boot**, and **REST APIs** to replace legacy point-to-point systems, improving data exchange speed and stability by **30%**.
- Designed and implemented **Java-based integration flows** to automate data movement between internal applications and external systems, increasing overall operational efficiency by **25%**.
- Migrated the development team from **TFVC to GitHub**, cleaning up repositories and improving collaboration and version control by **25%**.
- Implemented **secure file-exchange modules** in Java using **SFTP/FTP clients**, ensuring reliable data transfers across multiple platforms.
- Developed a **Java middleware service** for data transformation and automated **e-invoice generation**, integrating with the IRP portal and producing QR codes for compliance.
- Reduced production downtime by **30%** by replacing older Log4j patterns with improved **structured logging, error handling, and monitoring** inside Java applications.
- Worked with cross-functional teams to design, deploy, and optimize **Java microservices**, improving scalability, deployment efficiency, and environment stability.

EDUCATION

Master of Science in Data Analytics

Dec 2024

Indiana Wesleyan University

Master of Science in Data Science

May 2023

Indiana University Purdue University

Bachelor's in computer science and engineering

Apr 2019

Bapatla Engineering College

PROJECTS

Vehicle Data Validation and Ingestion Platform

- Developed backend services to ingest and validate vehicle configuration data from Teamcenter into PostgreSQL, ensuring over 95% accuracy through automated report generation.

Vendor Vue Application

- Developed a web-based application for managing employee hours and vendor payments, utilizing React.js for the frontend and Spring Boot with Spring WebFlux for the backend, implementing microservices architecture for scalability.

Control System Integration with e-Invoicing

- Designed and implemented middleware for data transformation and e-invoice generation, integrating with the IRP portal for QR code generation and ensuring seamless data exchange and regulatory compliance.

CERTIFICATIONS

- **AWS Certified Developer Associate**