Aman Swarnkar

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Education

Bachelor of Technology - Electronics and Communications Engineering **Aug 2019 - Apr 2023**

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DESIGN & MANUFACTURING | GPA: 8/10 Jabalpur, India

Skills

Programming Languages	Java | SQL | Python | MongoDB
Technologies	Spring Boot | Hibernate | RabbitMQ | Microservice Architecture | JPA | Grafana | Kafka
Others	Git | Agile | Design Patterns | Unit Testing (JUnit) | Data Structures and Algorithms

Experience

Addverb Technologies | Software Development Engineer **January 2023 - Present**

- Developed and maintained the **Inbound microservice**, a core component of the warehouse management system, ensuring **99.9% availability** and horizontal scalability across 15+ warehouses.
- Built and integrated a reusable **Restart Analysis Library** for 10+ microservices to identify root causes of failures via CPU, memory, and thread dump diagnostics, reducing MTTR by **50%**.
- Designed resilient backend workflows for ingesting and processing high-volume data from distributed external systems, improving data consistency and scalability across regions.
- Implemented a **configurable inbound module** with **20+ customizable workflows**, supporting dynamic client operations such as HU creation, QA, and Putaway across varied warehouse setups.
- Wrote **400+ JUnit test cases**, achieving **80%+ test coverage** for mission-critical flows, improving code reliability and preventing regressions in CI/CD pipelines.
- Maintained **comprehensive documentation** covering code, architecture, and integration processes, reducing on boarding time by **30%** and improving cross-team collaboration.
- Collaborated in **50+ Agile sprints**, translating evolving business requirements into scalable backend solutions and proactively aligning with cross-functional stakeholders.
- Conducted backend performance tuning and refactoring, reducing average processing time for high-volume inbound flows by **60%**, accelerating downstream operations.
- **Technologies Used** : Java, Springboot, Design Patterns, SQL, Hibernate, RabbitMQ, JPA, MongoDB etc.

TCS Research & Innovation | TCS Research Intern **May 2022 - August 2022**

- Worked on **Developing multi-echelon supply chain** management systems with multiple constraints.
- Developed a fully functioning **multi-period multi-stage inventory flow** management model using classical and quantum solvers.
- Improved the results by **reducing the total landing cost by 40%** for the supply chain using quantum solvers.
- Technologies used: Python, Cplex, Qiskit, D'Wave. (Certificate)

Notable Projects

Restart Analyser – Spring Boot Library for Service Restart Detection **May 2025 - May 2025**

- Built a plug-and-play Spring Boot library (restart_analyser) to detect and log root causes of microservice restarts, capturing system metrics like thread dumps, heap usage, CPU usage, and GC stats.
- Designed for 100% detection coverage across JVM-level and container-level restarts; currently integrated into multiple microservices.
- Technologies used: Java, Spring Boot, SLF4J, JMX, System Diagnostics. Project Link

PCB DEFECT DETECTION USING OPENCV **April 2022**

- Performed various image processing techniques on the image, like, grayscaling, multi-level thresholding, filtering, etc. for better understanding, enhancing, and segmenting various parts of the image.
- Implemented a research paper named "Automatic Visual Inspection of Printed Circuit Board for Defect Detection and Classification" published in IEEE, in the year 2017.
- Technologies used: Python, Numpy, Matplotlib, OpenCV. Project Link

Responsibilities

- **Managed Team:** Provided hands-on guidance and technical mentorship to 3 junior developers, enhancing their skills and accelerating integration into the team.