ANKIT PAL

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EDUCATION

San Jose State University, *MS in Artificial Intelligence* | California, USA GPA: 3.63 / 4.0 Dec 2024

National Institute of Technology, *B.Tech in Electronics and Comm* | Delhi, India GPA: 7.49 / 10 Aug 2020

EXPERIENCE

Software Developer (RA), *SJSU Research Foundation* | California, USA Oct 2023 - Present

- **Designed and developed RESTful APIs** with **Spring Boot** and **GraphQL**, improving query flexibility and reducing data retrieval latency by 30%.
- Deployed and managed applications on **Azure** using **Azure Functions**, **Azure SQL**, **Cosmos DB**, and **Blob Storage**.
- Built event-driven architecture using **Apache Kafka**, enabling real-time processing of student activity logs and engagement tracking.
- Utilized **MongoDB** for scalable storage of course materials, student progress, and engagement metrics.
- Implemented **Hibernate ORM** for efficient data persistence, optimizing complex queries and database transactions.
- Developed **multithreaded Java components**, optimizing real-time performance for dynamic content personalization.
- Implemented **SonarQube** for code quality checks, reducing technical debt by 30% and improving maintainability across microservices.
- Automated builds and deployments using Jenkins and GitHub Actions, reducing manual effort by 60%.
- Implemented **JWT-based authentication** and **OAuth2 authorization**, enhancing API security for student data protection.

Data Analyst - SDE, *Optum - UnitedHealth Group* | India Aug 2020 - July 2022

- Developed **Spring Boot** microservices and REST APIs for healthcare claims processing, improving processing efficiency and reducing fraud.
- Optimized API performance using **Redis caching** and **asynchronous processing**, reducing database load by 35%.
- Leveraged **Azure cloud** services (Azure Functions, Azure SQL, Blob Storage, Cosmos DB) for high availability and scalability.
- Built batch processing jobs using **Spring Batch**, improving the efficiency of large-scale claims data processing.
- Implemented **event-driven architecture** using **Kafka**, enabling real-time anomaly detection in healthcare claims, reducing fraudulent claims by 20%.
- Designed and optimized high-performance **MySQL** and **Cassandra** databases, reducing query execution time by 50%.
- Deployed and managed microservices using **Docker** and **Kubernetes**, enhancing system reliability and reducing downtime by 35%
- Built big data pipelines using **Hadoop** and **Spark**, automating claims validation and reducing processing inefficiencies by $75K annually.
- Implemented modular **micro-frontend architecture** using Piral, improving seamless integration of team-specific analytics tools into a unified dashboard.
- Implemented unit and integration tests with **JUnit**, reducing production defects by 30%.

SKILLS

Programming Languages	Java, Python, Scala, JavaScript, TypeScript, SQL, HTML, CSS
Frameworks	Spring Boot, Hibernate, React, Angular, Piral
Big Data & Data Engineering	Apache Spark, Hadoop, Databricks, SQL optimization, ETL pipelines
Backend Development	Java EE, JPA, FastAPI, Multithreading, RESTful APIs
Cloud & DevOps	Microsoft Azure (Azure Functions, VMs, Blob Storage, Azure SQL Database), Docker, Kubernetes, Jenkins
Databases & Storage	PostgreSQL, MySQL, MongoDB, Oracle, Redis, Azure SQL Database, Hibernate (ORM)
Event-Driven Architecture	Apache Kafka, Multithreading, Asynchronous processing
Testing	Selenium, TDD practices, CI/CD automation with Jenkins, GitHub Actions, Azure DevOps

PROJECTS

Group Recommendation - Reinforcement Learning – *Recommendation Systems* | *Python, Tensorflow*

- Developed an advanced **group recommendation** system using **deep reinforcement learning** to optimize decision-making and group satisfaction. The system dynamically improves suggestions by adapting to user interactions and feedback.