

Devendra Khatri

Principal Software Engineer | Turning Complexity Into Scalable, High-Performance Systems

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Summary

Software engineer with 12 years of experience specializing in solving complex challenges, fostering innovation, leading teams, and driving cross-functional collaboration to deliver robust and optimized systems.

Work Experience

Nomura Holdings (Investment Bank)

Principal Software Engineer

Dec 2015 - Present

Mumbai, India

- **System Architecture:** Designed 3 core services in a cloud-native, event-driven risk management system. It persists 50M+ records daily and handles 1M+ API calls to process 2B+ data for risk analysis.
- **Performance Optimization:**
 - Redesigned data processing frameworks, achieving a **20x throughput increase**.
 - Optimized Dremio queries to reduce batch processing time from **6 hours to 1 hour**.
 - Leveraged instrumentation to refine data structures, reducing JVM memory from **200 GB to 50 GB**.
- **Data Modernization:** Built an efficient data pipeline using Apache Spark, enabling clients to access unified risk data within minutes for faster decision-making.
- **Cloud Modernization:** Leveraged infrastructure-as-code to provision and configure machines, enabling seamless migration of applications to an internal cloud with containerization for improved scalability.
- **Automation & Efficiency:** Optimized deployment and maintenance processes using Ansible and Jenkins, enabling one-click deployments and reducing deployment time from 1 hour to just 5 minutes.
- **Operational Excellence:** Implemented monitoring tools complemented by custom data integrity tools. These efforts empowered the support team to diagnose issues swiftly, reducing resolution time under 15 minutes.
- **Innovation:** Designed custom diagnostic tools and reconciliation utilities for cross-platform data validation, reducing root-cause analysis time by 80% and enhancing overall system reliability.
- **Incident Management:** Resolved 10+ high-severity incidents, ensuring uninterrupted operations, preventing regulatory fines, and maintaining consistently low post-deployment incident rates.
- **Leadership and Collaboration:** Led and mentored a global team of developers, ensuring timely project delivery. Worked closely with cross-functional teams for smooth integration of multi-departmental systems.

Apple Inc.

Contract Software Engineer

Jul 2013 – Dec 2015

Udaipur, India

- **Performance Engineering:** Contributed to load testing for 150+ Apple Online Store services using 400 AWS and GCP machines, doubling the order processing capacity to handle peak traffic efficiently.
- **Real-Time Monitoring:** Established a centralized war room with live feeds to ensure seamless operations and responsiveness during high-traffic product launches.

AppPerfect Corp.

Senior Software Engineer

Jun 2012 – Dec 2015

Udaipur, India

- **Big Data Analytics:** Developed a new product to easily generate big-data analytics using Hadoop ecosystem.
- **Product for Apple Manufacturing:** Engineered a system to efficiently handle iPhone test results from test stations, processing 100 requests/minute and delivering end-of-day results in flat file format to Apple.

Skills

Programming Languages

Java (Expert), Python (Intermediate)

Cloud Platforms

Amazon Web Services (AWS)

Frameworks & Tools

Spring Boot, Akka, pandas, SQL

DevOps & Automation

Docker, Ansible, Kubernetes, Jenkins

Big Data

Spark, Apache Iceberg, Dremio, NoSQL

Monitoring

Grafana, Prometheus, Zipkin, Splunk

Key Projects

Risk Analytics Persistence Service

2018 - 2022

Led a team of 5 developers for development of a Risk Analytics Persistence service, processing and storing over 50 million risk data entries daily in a lakehouse architecture, used by multiple departments for risk management.

Key Achievements:

- Implemented a cost-based query framework with separate processing lanes for high and low-cost queries, reducing load on calculation engine by 70%.
- Developed memory-optimized hierarchical data processing, eliminating out-of-memory issues.
- Established comprehensive monitoring system, enabling data-driven performance optimization and operational excellence.

Technical Stack: Java, Akka, Apache Iceberg, Parquet, Dremio, SQL Server, Zipkin, Grafana

Unified Data Access Platform

2017 - 2020

Developed a robust service facilitating programmatic access to risk data, including analytics, P&L, and model configurations, empowering numerous end-user computing (EUC) applications across departments.

Key Achievements:

- Engineered the system to handle 1 million daily requests, efficiently returning 2 billion data points, enabling large-scale data analysis and reporting.
- Created an intelligent data retrieval framework that abstracts multiple back-end systems, ensuring a seamless and consistent user experience.
- Developed and integrated Python and Excel plugins, enhancing user accessibility and ease of analysis.

Technologies: Java, Python, SQL Server, Dremio, Splunk, Grafana, Prometheus.

Risk Limit Supervisor

2021 - Present

Developed a system to monitor and enforce trading desk risk limits, ensuring compliance by logging violations and notifying relevant authorities promptly.

Key Achievements:

- Led modernization to migrate system to an internal cloud environment using infrastructure-as-code, and streamlined deployment through automated workflows.
- Led performance optimization efforts, reducing data processing batch time from 10 hours to just 1 hour, substantially improving operational efficiency.
- Architected a data pipeline with Spark to sync data in real time to Iceberg tables for a unified data platform.

Technologies: Java, Spring Boot, Apache Spark, SQL Server, Dremio, Apache Iceberg

Education

B. Tech in Information Technology

2008 - 2012

Rajasthan Technical University, Kota