TRIBHUWAN SINGH

Software Developer

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PROFESSIONAL SUMMARY

Software Developer with 4 years of experience building and optimizing high-throughput APIs and scalable backend services at enterprise scale. Proven record across the full software development life cycle (SDLC), including system design, code reviews, CI/CD pipelines, and production operations, with a focus on reliability, scaling, and security compliance. Experienced in real-time processing, machine learning (ML) model integrations, platform ownership, and customer-facing product development across AWS, Java, Python, and TypeScript stacks, and recognized at IBM for mentoring interns, leading cross-functional teams, and driving adoption, combining technical leadership with problem-solving and data-driven decision-making.

AREA OF EXPERTISE

Distributed Systems Design | High-Throughput APIs | Asynchronous Processing | Platform Ownership | Reliability and Scaling | ETL Pipeline Automation | CI/CD and DevSecOps | Real-Time Processing | IT Security and Compliance | Cloud-Native Architecture (AWS) | Machine Learning (ML) Integrations | System Design and Implementation | Agile Methodologies | Leadership | Data-Driven Decision Making | Collaboration

PROFESSIONAL EXPERIENCE

Senior Software Developer | IBM, Seattle, USA May 2023 - April 2025

- Led full-stack ownership of 5+ customer-facing products and core infrastructure, improving high-throughput APIs handling 100K+ daily records, achieving 99.9% system reliability and 90% reduction in security vulnerabilities through WhiteSource, ASoC, and OWASP Zap integrations.
- Optimized Reporting API query latency by 40% and sustained high-throughput API performance at 100K+ daily requests by implementing Redis caching using Java Spring Boot and Lettuce, applying design patterns for reliability and scaling.
- Deployed Instana and New Relic monitoring, reducing unplanned downtime by 25% across post-purchase experiences, enabling real-time processing, automated alerting, and asynchronous caching workflows meeting SLA reliability and scaling targets.
- Ensured 100% uptime SLA compliance, improved system efficiency, and reduced costs by 30% through PostgreSQL migration and ETL pipeline automation using Apache NiFi across 3 production environments.
- Built asynchronous AWS Lambda ETL pipelines processing over 1M inventory records daily into S3 and Redshift, integrating Kafka event streams to decouple services, improve scalability, and enable Machine Learning (ML)-driven customer targeting and abuse prevention.

Software Developer | IBM, Seattle, USA October 2021 - April 2023

- Aligned 20+ API schemas and standardized Java-based data handling to achieve 100% audit readiness across SOC 2 compliance reviews.
- Reduced data migration defect rate by 35% by architecting Python ETL pipeline automation with embedded validation logic, orchestrating distributed ingestion and transformation across cloud and on-premises environments via Apache NiFi.
- Executed 5+ zero-downtime database migrations across PostgreSQL and NoSQL platforms, maintaining 100% data integrity and improving query performance by 25% across 3 product lines.
- Enforced code reviews, source control management, and build processes across 4+ microservices, integrating vulnerability scanning and security automation into CI/CD pipelines, reducing remediation cycle time by 50%.
- Designed real-time processing dashboards for 15+ engineers, reducing mean time to detect (MTTD) incidents by 30% using Apache Superset dashboards and CloudWatch logs.

EDUCATION

Master of Science, Information Technology (Cybersecurity) 2024 - 2026
Westcliff University, Irvine, USA

Master of Science, Data Analytics Engineering 2019 - 2021
Northeastern University, Seattle, USA

SKILLS

Programming Languages: Java, Python, TypeScript, JavaScript, SQL, C#
Cloud and Infrastructure: AWS Lambda, MSK, S3, EC2, RDS, Redshift, SQS, EMR, DynamoDB, Kubernetes, Docker, Terraform, Ansible, OpenShift
Data Engineering and ML: ETL Pipeline Automation, Apache Spark, PySpark, Databricks, Apache NiFi, Kafka, Machine Learning (ML) Model Integrations, Large-Scale Datasets, Data Warehouse Optimization
Backend Technologies: Spring Boot, Node.js, Flask, PostgreSQL, MongoDB, Redis, DB2, Cloudant, NoSQL, Lettuce, RESTful APIs, Microservices, High-Throughput APIs, System Design, Design Patterns, Reliability and Scaling, System Scalability Optimization, Distributed Transactions, Concurrency, Caching Strategies, Secure SDLC, Event-driven architecture, Asynchronous Processing
DevSecOps and CI/CD: GitLab CI/CD, Jenkins, Source Control Management, Build Processes, Code Reviews, OWASP Zap, WhiteSource, ASoC, Twistlock, Vulnerability Scanning
Observability and Operations: Real-Time Processing, New Relic, Instana, ELK Stack, CloudWatch Logs, Apache Superset, JMeter, Postman, Security Enhancements, Jest, JUnit
Methodologies: Agile Methodologies, Full Software Development Life Cycle (SDLC), Platform Ownership, Technical Content Development