SUMAN NATH

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PROFESSIONAL SUMMARY

Staff Software Engineer with 13+ years of experience building cloud-native, distributed enterprise applications. Expert in Python and Java with proven track record in microservices architecture, RESTful APIs, CI/CD pipelines, and AWS/Kubernetes deployments. Specialized in developing scalable backend systems, RAG (Retrieval-Augmented Generation) pipelines, and AI/ML integrations for financial platforms. Demonstrated leadership in technical architecture, system design, and cross-functional team collaboration. Consistently delivered high-performance solutions with 40% query optimization improvements and 80% reduction in manual processes through intelligent automation.

CORE TECHNICAL SKILLS

Programming Languages: Python (primary), Java, SQL, Bash, Shell Scripting

Cloud & Infrastructure: AWS (EC2, RDS, S3, Lambda), Kubernetes, Docker, Microservices Architecture

CI/CD & DevOps: Jenkins, GitHub Actions, GitLab CI, Helm, ArgoCD, Control-M Job Scheduling

Backend Development: RESTful APIs, FastAPI, Event-Driven Systems, Service-Oriented Architecture (SOA)

Databases: MySQL, PostgreSQL, Cassandra, DB2, Redis, Vector Databases

AI/ML & Automation: Retrieval-Augmented Generation (RAG), LangChain, Large Language Models (LLMs), MCP, A2A, LangGraph, Prompt and Context engineering

Distributed Systems: System Design, Scalability, Performance Optimization, High Availability, Fault Tolerance

PROFESSIONAL EXPERIENCE

Staff Software Engineer

Intuit | *Bengaluru, India* | *Feb 2026 - Present*

- Architecting agentic AI solutions designed to resolve complex user issues at scale. I focus on bridging the gap between generative AI capabilities and production-grade reliability by:
  - Establishing AI Trust: Defining rigorous evaluation frameworks and metrics to ensure agentic responses are accurate, safe, and effective.
  - Real-time Observability: Engineering automated evaluation strategies that validate AI-driven solutions against success metrics in real-time.
  - High-Scale Knowledge Engineering: Architecting scalable ingestion pipelines to ensure proprietary knowledge is securely and accurately utilized for high-precision user queries.

Staff Software Engineer

Visa Inc | *Bengaluru, India* | *2022 – Feb 2026*

- Architected and deployed Python-based microservices for critical financial transaction processing systems, improving scalability and system resilience across high-volume payment platforms
- Developed Retrieval-Augmented Generation (RAG) pipelines integrating Large Language Models (LLMs) with internal knowledge bases using LangChain, and MCPs enabling intelligent document summarization and automated support workflows
- Designed and implemented comprehensive RESTful APIs for authentication, authorization, data validation, and service orchestration supporting mission-critical financial operations
- Automated complex batch workflows using Python, Control-M, and Bash scripting, achieving 80% reduction in manual effort and significantly improving operational reliability and data consistency
- Built scalable data processing pipelines with Pandas and Apache Spark for log ingestion, dataset enrichment, and analytical reporting across distributed systems
- Deployed containerized applications using Kubernetes orchestration with robust CI/CD pipelines (Jenkins, GitHub Actions) and Helm charts, ensuring consistent and reliable production deployments
- Led architecture reviews and technical decision-making for backend platforms, providing strategic guidance on scalability patterns, fault tolerance mechanisms, and distributed system design

- Optimized database performance through strategic SQL query refactoring and schema optimization across MySQL, DB2, and Cassandra, achieving 40% improvement in data access times
- Integrated third-party platforms (ServiceNow, monitoring systems) using custom REST APIs to automate incident management, ticket generation, and system health reporting

Senior Software Engineer and Technical Lead

Tata Consultancy Services | *India, UK, Netherlands* | *2012 – 2022*

- Executed comprehensive legacy-to-cloud migration projects using AWS infrastructure (EC2, RDS, S3) and enterprise Java/Python systems, modernizing critical business applications for improved scalability and cost efficiency
- Built robust automation frameworks using Python, Java, and Control-M to streamline complex financial workflows, reduce operational overhead, and eliminate manual intervention points
- Led Application Maintenance & Support (AMS) portfolio for 3+ years, maintaining 99.9% uptime for mission-critical systems and ensuring strict SLA compliance across multiple business units
- Directed and mentored cross-geographical team of 50+ engineers across Netherlands and India, providing technical leadership and ensuring successful project delivery across multiple time zones
- Implemented KPI-driven monitoring and analytics framework, significantly improving customer satisfaction scores and establishing measurable system reliability metrics
- Collaborated with international clients across UK and Netherlands, delivering solutions meeting diverse regulatory requirements and business objectives in financial services sector

EDUCATION

Bachelor of Technology (B.Tech) in Computer Science

West Bengal University of Technology | *2007 – 2011*

PROFESSIONAL CERTIFICATIONS

- AWS Certified Cloud Practitioner
- Microsoft Certified: Azure Administrator Associate
- Microsoft Certified: Azure Fundamentals
- IBM Certified Database Associate – DB2 9 Fundamentals
- IBM Certified Solution Developer – DB2 9.5 SQL Procedure Developer

KEY ACHIEVEMENTS and IMPACT

- Contributed to Principal-level architectural decisions while operating at Staff Engineer level, influencing cross-organizational technical strategy and platform design
- Achieved 80% reduction in manual operational processes through intelligent automation and workflow optimization implementations
- Improved database query performance by 40% across multiple enterprise database systems through strategic optimization and indexing strategies
- Successfully led distributed teams of 50+ engineers across multiple continents, delivering complex projects on schedule and within budget
- Maintained 99.9% uptime for mission-critical financial systems over 3+ years through proactive monitoring and incident management
- Pioneered AI/ML integration with RAG pipelines for enhanced operational intelligence and automated decision-making workflows