

# Shiva Mani Polla

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## SUMMARY

- Experienced Software Engineer with hands-on involvement in all phases of the Software Development Life Cycle (SDLC) using Agile/Scrum methodologies. Adept at delivering iterative, high-quality software solutions within fast-paced environments.
- Skilled in designing and implementing responsive user interfaces using JSP, HTML, CSS, JavaScript, and AngularJS. Focused on creating seamless, user-friendly web experiences.
- Strong backend development expertise using Spring Data, Spring DAO, and Hibernate ORM for efficient and scalable database operations. Built robust batch processing systems leveraging Spring Batch.
- Developed and integrated RESTful web services to facilitate smooth communication between internal applications and third-party services. Ensured secure and reliable API implementations.
- Hands-on experience provisioning and managing AWS resources including EC2 instances, RDS databases, VPC setup, and IAM roles. Skilled in configuring auto-scaling, ELB, security groups, and network infrastructure.
- Proficient in writing and optimizing complex SQL and T-SQL stored procedures, functions, views, and triggers. Skilled in scheduling and executing database queries for performance and reliability.
- Automated build, test, and deployment processes using Jenkins and Azure DevOps. Enabled faster and more reliable release cycles through CI/CD pipeline development.
- Conducted performance tuning and load testing to ensure system scalability and responsiveness under high user loads. Implemented comprehensive logging and error handling for improved system stability.
- Collaborated with cross-functional teams to define APIs and establish data contracts. Facilitated seamless integration and communication between microservices architectures.
- Experienced in manual and automated testing, including test design, execution, defect tracking, and reporting. Migrated legacy QTP scripts to Work soft Certify for improved automation coverage.
- Developed custom NLP algorithms and machine learning models using Python, TensorFlow, and Keras to extract meaningful insights from unstructured data. Focused on improving accuracy and efficiency of AI-driven solutions.
- Built scalable ML workflows on cloud platforms like Azure HDInsight and AWS Lambda, optimizing data processing pipelines for large-scale deployments. Automated monitoring and logging for containerized ML applications.
- Engineered containerized deployments using Docker and Kubernetes to ensure efficient resource usage and scalability. Facilitated seamless application rollout and management in production environments.
- Integrated and managed both relational databases (SQL Server, Oracle, MySQL) and NoSQL databases (MongoDB) for effective data storage and retrieval. Employed best practices for database design and performance tuning.

## EDUCATION

**Lewis University, Romeoville, IL, USA**

**Dec 2023**

Master of Science in Data Science

**Lovely Professional University, Punjab, India**

**Apr 2020**

Bachelor of Technology in Electronics and Communication Engineering

## WORK EXPERIENCE

**Software Engineer | PPL FIRST, Chicago, Illinois**

**Nov 2023 – Present**

- Participated in SDLC phases following Agile/Scrum methodology.
- Designed UI using JSP, HTML, CSS, and JavaScript.
- Used Spring Data (JDBC, ORM) and Spring DAO with Hibernate for efficient database access.
- Developed batch jobs with Spring Batch.
- Created and integrated RESTful web services for internal and third-party applications.
- Wrote JUnit test cases for unit testing.
- Provisioned AWS resources via console and CLI; configured VPC network infrastructure, routing, and security.
- Managed EC2 instances with Windows AMI, auto-scaling, ELB, and security groups.
- Created IAM users, roles, and policies for AWS service access.
- Developed and optimized SQL stored procedures, functions, views, and triggers.
- Scheduled and executed SQL and T-SQL queries.
- Monitored EC2 instances using CloudWatch; configured alarms and notifications with CloudWatch and SNS.
- Automated deployment workflows using CI/CD tools such as Jenkins and Azure DevOps for faster release cycles.
- Conducted performance tuning and load testing to ensure system scalability and responsiveness under peak loads.
- Implemented logging and error handling mechanisms across services to improve system reliability and troubleshooting.
- Collaborated with cross-functional teams to define APIs and data contracts for seamless integration between microservices.

- Manual Testing for new version of BI/BO reports integrated with SAP Hana as backend storage.
- Testing phase includes data reconciliation and report mapping validation.
- Test design and execution for wave 3.0 SIT on Crystal, WEBI and Dashboard reports.
- Coordinated with development team and onsite team during execution.
- Test execution for wave 2.5 Regression Testing.
- Test execution for wave 4.0 Integration Testing.
- Analyzed the existing QTP scripts and prepared plan document for Certify conversion
- Automated QTP script flows into Work soft Certify scripts
- Co-ordination with SAP sales-force team and Work soft SME's
- Responsible for creating test cases with 100 % coverage on requirements.
- Writing Test Scripts for CFS next day module.
- Executing Test Scripts for various modules in V7 migration.
- Raising and Re-testing defects for various modules in V7 migration.
- Sending daily status to Team Lead.

- Led the development of custom NLP algorithms using Python, TensorFlow, and Keras, effectively extracting meaningful insights from large datasets.
- Developed custom NLP algorithms using Python, TensorFlow, and Keras to extract insights from large datasets.
- Optimized ML models for resource-constrained environments, focusing on memory and CPU efficiency.
- Maintained technical documentation for production models, ensuring transparency and ease of troubleshooting.
- Built scalable ML workflows on Azure (HDInsight, ML Studio) and AWS (S3, Lambda) for optimized performance.
- Automated monitoring and log analysis for containerized ML apps using Linux scripts.
- Streamlined data preprocessing with Apache NiFi and Pyspark, building pipelines to process millions of records daily.
- Engineered containerized solutions with Docker and Kubernetes for scalable and efficient deployments.
- Automated data tasks with Shell scripting on Linux and Unix, ensuring high system reliability.
- Integrated relational (SQL, PostgreSQL) and NoSQL (MongoDB) databases for efficient data management.

## KEY PROJECTS

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### Real-Time Robotic Decision-Making System

- Built NLP pipelines using Python and TensorFlow for processing unstructured data.
- Integrated Microsoft Azure and AWS for cloud-based data processing and model deployment.
- Designed low-latency pipelines with Azure Functions and Kafka for real-time communication.
- Developed predictive models with Keras and Scikit-learn for autonomous decision-making.
- Implemented CI/CD pipelines with Jenkins and GitHub for seamless deployment.
- Deployed solutions with Docker and Kubernetes for scalability.

### AI-Powered Telemetry Data Processing

- Created AI models using Python, Keras, and TensorFlow for telemetry data analysis.
- Optimized ETL workflows with Apache NiFi and Pyspark for real-time data processing.
- Utilized AWS and Azure for scalable, cost-effective cloud processing.
- Streamlined deployments using CI/CD pipelines with Jenkins and GitLab.
- Developed RESTful APIs with Flask for system integration.

## TECHNICAL SKILLS

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**Programming Languages:** C#, ASP.NET 4.0/4.5, C++, Java, PHP

**Client-Side Programming:** HTML, CSS, JavaScript, jQuery, Angular JS, Ajax

**Databases:** SQL Server 2008/2012, Oracle, MySQL, MS Access

**IDE:** Visual Studio, Visual Studio Code

**Version Control Tools:** Git, Tortoise SVN

**Testing Frameworks/Tools:** Jasmine, Swagger, Spec Flow, Selenium, XUnit

**Other Languages/design patterns:** PL/SQL, T-SQL, UML, ASP.NET MVC

**Applications:** EPIC's ADT, EPIC Care Ambulatory/Inpatient Rhapsody Integration Engine, MS Visio, Rational Rose, XL-miner

**Big Data Ecosystem:** Hadoop, MapReduce, YARN, Hive, Pig, Spark, Sqoop, Flume