Shilpa Singh

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Professional Summary

Result-oriented AI&ML Engineer with 10 years of software development experience and 5 years of expertise in Python-driven data analytics. Proficient in AI/ML frameworks like TensorFlow, PyTorch, Keras, and Hugging Face, with hands-on experience in cloud platforms (Azure, AWS, GCP), graph databases (Neo4j, Cosmos DB), and data analysis tools such as PySpark and pandas. Expertise in Python frameworks (Flask, Django), integration and automation with Docker, Git, and CI/CD pipelines. Proven leadership in fostering team collaboration, managing projects, and solving complex problems. Committed to advancing responsible AI practices and model governance.

Technical Expertise:

- **Programming Languages:** Python, JAVA, JavaScript
- **AI/ML Frameworks:** TensorFlow, PyTorch, Keras, Scikit-Learn, Hugging Face
- **Python Frameworks and Libraries:** Flask, Django, pandas, jinja, NumPy
- **Data Analysis:** PySpark, Sci-py, pandas, NumPy, Jupiter notebook
- **Integration and Automation:** Docker, Git, Azure DevOps, AWS, GitHub, Kubernetes, Kafka.
- **Graph Databases:** Neo4j, Cosmos DB
- **Cloud Platforms:** Azure, AWS, GCP
- **Development Tools:** Visual Studio Code, Eclipse
- **DevOps Tools:** Azure DevOps, CI/CD Pipeline
- **Database:** MongoDB, Oracle 11G, My SQL
- **Web Servers:** Web logic, Apache, Tomcat
- Proficient in Java, JSP, Servlets, Spring Framework, Hibernate, Spring Boot, and REST API
- **Soft Skills:** Team Leadership, Project Management, and problem solving

Academics Credentials

- Post Graduate Certificate in Artificial Intelligence and Machine Learning, Conestoga College, Kitchener, ON, CA **2024**
- Post Graduate Certificate in Project Management, Conestoga College, Kitchener, ON, CA **2023**
- Master of Business Administration in Finance, Subharti University, India **2021**
- Post Graduate Diploma in Information Security, IGNOU, India **2019**
- Bachelor's in computer science and engineering, Uttar Pradesh Technical University, India **2013**

Experience & Professional Synopsis:

Organization: Axis Bank Limited (June'2022 – April'2023)
Job Title: Senior Manager
Project: Loan Origination System

Responsibilities:

- Collaborated with cross-functional teams to deliver actionable insights by analyzing large datasets using Python and advanced machine learning techniques.
- Led the design and deployment of a Fraud Detection System leveraging advanced machine learning algorithms (e.g., Random Forest, XGBoost) to identify fraudulent credit card transactions, increasing fraud detection accuracy and minimizing false positives.
- Developed preprocessing pipelines and implemented feature engineering to optimize model performance, deploying these workflows in cloud environment (Azure).
- Conducted exploratory data analysis (EDA) and built statistical and regression models to inform strategic decisions.

- Designed, developed, and optimized machine learning models using TensorFlow, PyTorch, and Scikit-Learn to support business-critical applications, including customer credit scoring.
- Spearheaded the development of AI/ML models, improving loan origination efficiency by 20% through enhanced model predictions.
- Worked with internal teams to address data analytics needs, processing and analyzing data for machine learning tasks with Python.
- Managed UAT and production environments, ensuring seamless project flow, performing code reviews to enhance code quality, and resolving production issues to maintain high availability and system reliability.

Tech Stack: Python, TensorFlow, PyTorch, Keras, Scikit-Learn, Hugging Face, Flask, Docker, Kubernetes, Azure, Neo4j, Git, CI/CD, REST API.

Organization: Nucleus Software Exports Limited (Jan'2018 – June'2022)
Job Title: Technical Lead
Project: Finnone Neo Origination System

Responsibilities:
- Designed data pipelines and implemented machine learning models for **Customer Credit Scoring** and **Customer Segmentation** projects.
- Built loan default prediction models using Scikit-Learn and XGBoost, reducing default rates and identifying high-risk customers.
- Conducted exploratory data analysis (EDA) with Pandas and Seaborn to derive actionable insights.
- Integrated cloud-based solutions (Azure, AWS) to enhance data accessibility, scalability, and performance.
- Implemented predictive analytics to improve loan approval processing speed for **Loan Approval Automation**.
- Developed regression models with 85% accuracy to predict loan default probabilities.
- Reduced processing times by 30% through efficient data pipelines and cloud integration.
- Delivered dashboards visualizing key metrics for stakeholders.
- Led the migration of the Finnone NEO loan origination system, improving data processing with Python, NumPy, Pandas, and Scikit-Learn.
- Deployed machine learning models with TensorFlow, PyTorch, and Keras to optimize loan approval decisions.
- Managed version control and team collaboration using GitHub, Visual Studio Code, and Azure DevOps.
- Mentored teams on Python, machine learning, and cloud infrastructure to ensure successful project delivery.

Tech Stack: Python, TensorFlow, PyTorch, Keras, Scikit-Learn, Hugging Face, Flask, Docker, Kubernetes, Azure, AWS, Neo4j, MongoDB, Git, CI/CD, Kafka, REST API.

Organization: Nucleus Software Exports Limited (June'2016 – Jan'2018)
Job Title: Senior Software Engineer
Project: Real-Time Loan Approval System

Responsibilities:
- Developed and implemented coding standards and best practices to ensure maintainable and efficient Java-based applications.
- Created and documented both technical and functional specifications to guide project development and integration.
- Coordinated with technical teams, clients, and stakeholders to ensure a smooth project lifecycle and migration processes.
- Wrote clean, maintainable Java code following industry standards and best practices to ensure high-

quality development.

- Developed RESTful web services using Spring Boot, enabling seamless communication between frontend applications and other systems.
- Implemented data access and persistence layers using Hibernate, optimizing database interactions and improving overall performance.
- Actively participated in team meetings, contributing to project planning and progress discussions, and maintaining thorough project documentation.

Tech Stack: Java, Spring Boot, Hibernate, REST API, Git, Maven, JUnit, MySQL, Oracle, Apache Tomcat, CI/CD.

Organization: Nucleus Software Exports Limited (Aug'2013 – June'2016)
Job Title: Software Engineer
Project: Advanced Loan Origination System Integration

Responsibilities:

- Wrote clean, maintainable, and efficient Java code following coding standards and best practices to enhance the loan origination system.
- Collaborated with senior developers to implement best practices for scalable solutions.
- Contributed to the design and development of database schemas to ensure seamless integration with data sources, credit bureaus, and other systems
- Actively participated in team meetings, contributing insights and solutions to project challenges, while maintaining comprehensive project documentation.
- Worked on real-time data retrieval and validation mechanisms to ensure a seamless and efficient customer experience during loan processing.

Tech Stack: Java, Spring Boot, Hibernate, REST API, Git, Maven, Oracle, Apache Tomcat, CI/CD.