**Akhilesh Nagaraj**

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**SUMMARY:**Experienced MLOps Engineer with 5+ years of expertise in building and automating end-to-end machine learning pipelines using tools like Kubernetes, Docker, MLflow, and Airflow. Proficient in deploying scalable AI/ML solutions on AWS, GCP, and Azure, and optimizing CI/CD pipelines for seamless model deployment. Skilled in Python, TensorFlow, and PyTorch with a strong focus on integrating ML workflows into production environments. **Data Analyzing Experience deploying Machine Learning and predictive modeling techniques, Data mining** with Large Datasets of **Structured and Unstructured Data, Data Acquisition, Data Validation, Data Visulaization, Predictive Modeling.**

* Strong on-hands experience in Data Extraction, Data Modelling, Data Wrangling, Statistical Modeling, Data Mining, Machine Learning, and Data Visualization.
* Expertise in TensorFlow, Python and R like Pandas, PyTorch, Keras, SciPy, Matplotlib, Scikit-learn for building and training models.
* Strong programming background in Python, R, and SQL, with a deep understanding of machine learning algorithms, predictive modeling, and statistical analysis.
* Knowledge in Machine Learning algorithm and Predictive Modeling, including Regression, Clustering, Random Forest, NLP, Decision Tree, Time Series, hypothesis testing, K means clustering, Neural Networks.
* Experience in Building Chat-Bots with Azure.
* Experienced with AWS SageMaker.
* Experience in the entire data science project life cycle and actively involved in all the phases, including data extraction, data cleaning, statistical modeling, and data visualization with large data sets of structured and unstructured data.
* Knowledge on Google Cloud Platform (GCP) services like compute engine, cloud load balancing, cloud storage, cloud DataProc, Cloud Pub/Sub, cloud SQL, Big Query, stack driver monitoring and cloud deployment manager.
* Worked on Kubernetes (K8s) with Nvidia NGC containers using docker.
* Statistical Modeling in Forecasting/ Predictive Analytics, Segmentation Methodologies, Regression Based Models, Hypothesis Testing, Factor Analysis/ PCA.
* Optimization and troubleshooting, test case integration into CI/CD pipeline using Docker images.
* Strong SQL Server programming skills, with experience in working with functions, packages and triggers.
* Developed API libraries and coded business logic using C#, XML and designed web pages using .NET framework, C#, Python, Django, HTML, AJAX.
* Understanding of Python Best Practices (PEP-8) and package management system (PIP) in Python
* Deployed AI/ML models as APIs using **FastAPI**, enabling real-time inference with low-latency responses.
* Experience in developing web applications using Django and Flask framework.
* Experience with container-based deployments using Docker, working with Docker images, Docker Hub and Docker-registries and Kubernetes.
* Familiarity with Reporting layer tools like Tableau and MSBI for gathering business insights from the transformed data (ETL) to get insights, eventually to help businesses to make strategic decisions from the data.
* Proficient in Deploying the Storage accounts and Azure Data Factory and Worked on Azure SQL Database management, monitoring and advanced azure security functions.

**EDUCATION:**

* Masters from University of the Pacific, San Francisco, CA, USA
* Bachelors from Sai Vidya Institute of technology (VTU University), India

**SKILL SET:**

MLOps & Deployment: Kubernetes, Docker, MLflow, Kubeflow, CI/CD Pipelines  
Machine Learning & Deep Learning: TensorFlow, PyTorch, Scikit-learn, Keras  
Cloud Platforms: AWS (SageMaker), GCP, Azure (Databricks, AML Studio)  
Programming: Python, SQL, Bash  
Big Data & ETL: Apache Airflow, Spark, Hadoop, Hive, Big Query

Visualization: Tableau, Power BI, Seaborn, Matplotlib

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| * Machine Learning * Natural Language Processing * Data Mining * Data Analysis * Statistics * Kubernetes * A/B Testing * Big Data * SQL | * Pandas * NumPy * Scikit-learn * Seaborn * TensorFlow * PyTorch * SAS Programming * Clustering * Hugging Face | * Power BI * NLP * Tableau * Docker * Deep Learning * PySpark * Python * R |

**PROFESSIONAL EXPERIENCE:**

**Machine Learning Engineer/ MLOps Engineer | Johnson & Johnson, CA, Remote | Jan 22 – Till Date**

**Responsibilities:**

* Worked with several R packages including knit, Spark, R, Causal Infer, Space-Time.
* Using apache airflow, data pipelines are built to gather data from store-checkout devices into Big Query.
* Designed text classification tool using Scikit-Learn and Natural Language Processing (Spacy) in python to automatically scan documents and check the meets of policy.
* Developed automated CI/CD pipelines for model deployment, ensuring rapid and reliable releases to production environments.
* Experience with Azure Machine Learning Studio, MLops, Azure Databricks, ML Flow, Pyspark and other Azure machine learning services.
* Understanding of deep learning frameworks, such as Tensor Flow and Pytorch, for more advanced machine learning applications.
* Worked extensively on Hadoop eco-system components Map Reduce, Pig, Hive, HBase, Flume, Sqoop, Hue, Oozie, Spark and Kafka.
* Built and automated end-to-end MLOps pipelines using tools like Airflow, Kubernetes, and Docker, improving deployment efficiency and reducing manual intervention.
* Optimized GCP data storage and processing pipelines for AI, GenAI, and ML services across production, development, and testing environments, using SQL, Spark, Python, and MongoDB; reduced data retrieval times by 35%.
* Developed a new data scheme for the data consumption store for the Machine Learning and AI models to quicken the processing time using SQL, Hadoop, and Cloud services.
* Proficient in automating machine learning workflows, monitoring models in production, and using tools like MLflow, Kubeflow, and Airflow.
* Provided comprehensive API documentation via FastAPI’s automatic OpenAPI schema generation, facilitating ease of use for developers and stakeholders.
* Conducted training sessions on ML and MLOps tools and practices to upskill team members and promote knowledge sharing.
* Utilized big data tools for MLOps like GCP, Big Query, DataProc for streamlining data lakes.
* Used the AWS SageMaker to quickly build, train and deploy the machine learning models.
* Worked on Kubernetes (K8s) with Nvidia NGC containers using docker.
* Development of Application using Java and Python.
* Used tools like MLflow for experiment tracking, improving transparency and facilitating collaboration on model development.
* Manage Data Storage and processing pipelines in AWS for serving AI and ML services in Production, development and testing using SQL, Spark, Python and AI.
* Participated in all phases of Data mining, Data-collection, Data-Cleaning, Developing-Models, Validation, Visualization and Performed Gap Analysis.
* Developed enterprise-level Business Intelligence (BI) solutions using Tableau.
* Used Python scripts to update content in the database and manipulate files.
* Implemented Agile Methodology for building an internal application.

**Environment:** R, Python, HDFS, ODS, OLTP, Oracle 10g, Hive, OLAP, DB2, Metadata, MS Excel, Mainframes MS Vision, Map-Reduce, Rational Rose, SQL, and MongoDB.

**MLOps Engineer/Data Scientist | TCS, Remote | Feb 20 – Jul 21**

**Responsibilities:**

* Handled all the client side validation using **JavaScript.**
* Proficient in Python programming, with a focus on writing clean, efficient, and modular code for machine learning applications.
* Build and enhance **marketing mix models** to connect the impact of **marketing tactics** and **business short-term** **and** long-term outcomes.
* Used Apache Airflow and Kubeflow to orchestrate ML workflows, automating training and deployment pipelines.
* Extracted and prepared data for model building from the AWS Snowflake Database, ensuring data quality, consistency, and integrity through data cleaning and variable transformation using Pandas and NumPy.
* Programming experience with **.NET framework, C#, Visual Studio 2005/2008** to build web based, client/server architecture and to produce reports with **C# and JSP.**
* Built REST APIs with the Flask framework to deploy machine learning models in production environments using Docker and Kubernetes.
* Deployed infrastructure for ML projects using IaC tools like Terraform to automate environment setups.
* Integrated **FastAPI** model APIs into CI/CD pipelines, automating testing, versioning, and deployment of machine learning services.
* Experienced in deploying ML models on cloud platforms like AWS, GCP, and Azure with managed services (e.g., Sagemaker, Vertex AI).
* Experience in determine trends and significant data relationships using **advanced Statistical Methods.**
* Performed Exploratory Data Analysis using R.
* Worked on different data formats such as JSON, XML and performed machine learning algorithms in Python.
* Researched and applied Reinforcement Learning and control techniques using TensorFlow and Torch, and developed machine learning models with Scikit-learn.
* Developed and managed data pipelines across GCP, Azure, and AWS platforms.
* Worked on Data Modeling tools **Erwin Data Modeler** to design the data models.
* Developed various **QlikView Data Models** by extracting and using the data from various **sources files, DB2, Excel, Flat Files and Big data.**
* Used pandas, numpy, sea born, matplotlib, scikit-learn, scipy, NLTK in Python for developing various machine learning algorithms.
* Utilized Docker to containerize ML models for consistent deployments across different environments.
* Handled importing data from various **data sources, performed transformations using Hive, Map Reduce, and loaded data into HDFS.**
* Identifying and executing process improvements, hands-on in various technologies such as **Oracle, Informatica, business Objects.**
* Worked on data cleaning and ensured data e, consistency, integrity using **Pandas, NumPy.**
* Developed NLP models for Topic Extraction, Sentiment Analysis
* Used Python, Convolution **Neural Networks (CNN)**, **Deep Belief Networks(DBN), Theano**, **cafe** etc.

**Environment:** Python 3.2/2.7, hive, oozie, Tableau, Informatica 9.0, HTML5, CSS, Bert, XML, MySQL, MS SQL Server 2008/2012, JavaScript, AWS, S3, EC2, Linux, Jupiter Notebook, RNN, ANN, Spark, Hadoop, HBase, Bert, MapReduce, Hive, Impala, Pig, Sqoop, Mahout, Spark ML Lib, MongoDB, Tableau, ETL.

**Data Analyst | Reliance, India | Apr 19 – Jan 20**

**Responsibilities:**

* Analyzed the customer data and business rules to maintain the data quality and integrity.
* Developed **SQL queries** to create tables, extract/merge to bring data together from various sources.
* Involved in the **data cleaning procedures, data alignment and data profiling**.
* Prepare Conceptual, Logical & Physical Data models covering all the entities using **Erwin Data Modeler 9.64.**
* Expertise in Erwin Data Modeler tool for ER, Dimensional Data Modelling.
* Created HBase tables to store multiple data formats as a backend for 5+ user portals.
* Responsible for maintaining **Metadata** **repository** and documenting the complete process flow to **describe program development, testing and implementation, application integration and coding.**
* Experienced in python **data manipulation** for loading and extraction as well as with python libraries such as **NumPy**, **Scipy** and **Pandas** for **data analysis** and numerical computations.
* Involved in Data Migration from Teradata to **MS SQL server**.
* Analyzed data from a variety of sources like **MS Access, SQL, MS Excel, CSV and flat files**.
* Performed **ETL process to Extract, Transform and Load the data from OLTP tables into staging tables and data warehouse.**
* Used **MS Excel and Tableau** for visualizations and reports.

**Environment:** MS Excel, MS Visio, MS Project, MS-Office, MS PowerPoint, MS Word, Macros, Teradata, Tableau, SQL, Oracle 10g, MS Office, MS Visio.