



Bharath Kalluru

Machine Learning Engineer

I'm Pythonista, ML, MLOps Engineer around 7+ years of experience in designing, developing and debugging applications using Django, Flask and Fast API using Python, Azure and AWS cloud. Established ability in deploying solutions to production for real-world problems in the cloud or on the edge.

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TECHNICAL SKILLS

Python, Pandas, Machine Learning, sklearn, PyTorch, Keras, Tensorflow, Deep Learning, NLP, LLM, CV, Ai-Hub, Databricks, AzureML, SageMaker, Django, Django Rest Framework, Rest API, ORM, Fast API, Flask, Microservices, HTML, SAS, VSCode, Linux, Docker, PowerBI, Tableau, PostgreSQL, MYSQL, Git, Bitbucket, Jenkins, JFrog Artifactory, Confluence, Azure DevOps, CI/CD pipeline, Kubernetes, AWS - EC2, AWS - S3, AWS - Lambda, AWS - EKS, AWS- EMR, AWS-Glue, AWS-RDS



WORK EXPERIENCE

ML Engineer

Toyota Financial Services

03/2022 - Present

Achievements/Tasks

- Worked on developing and deploying end-to-end ML applications. Worked on **iDoc** which is **ML** Problem. Experience in ML libraries, frameworks, NLP, CV. Experience in **AutoML**.
- Engineered and implemented cutting-edge ML solutions, contributing to improved model performance and efficiency. Successfully integrated with OpenAI's LLMs to enable retrieval augmented generation, synthetic content generation, and Summarisation
- Collaborating with data scientists and engineers to ensure data availability and quality for machine learning tasks. Worked along with other Principal ML Engineers to deploy solutions in our **internal platform** and **Kubernetes** for various use cases.
- I've worked on **Ai-Hub** where we have numerous models for different real-world problems. In-depth experience with DL architectures.
- I'm experience in Collecting, preprocessing, and analyzing data for training and evaluation. Optimizing and fine-tuning models for performance and accuracy. Collaborating with cross-functional teams to integrate ML solutions into applications or systems.
- Developed and implemented novel algorithms and models, including neural networks, ensemble methods, NLP, and computer vision, to extract insights from high-volume and high-dimensionality data.
- Worked on **Fast APIs** . Build enterprise reports using **PowerBI** and **Tableau**.
- Experience on **MLOps**. Implemented fully automatic **CI/CD pipelines** using tools like Bitbucket, Jenkins and Artifactory. Worked on **Docker containers**. Experienced in working with various **DevOps** tools like Git, Docker, Azure DevOps. Experience in creating domain.
- **Deployed** multiple applications. Deployed no.of ML Applications, Django, Fast, Fast API Applications. Worked on **Azure, and AWS cloud**. Experience in **Databricks, AzureML** and **Sagemaker**.



Python and MLOps Engineer

Ameri Health Caritas

10/2021 - 03/2022

Plano, Dallas

Achievements/Tasks

- Worked on **AISI (Artificial Intelligence based Smart Inspection)** is Computer Vision problem which classifies object detection and object classification problem. Here we detect and classify the surgical devices which are in the tray. Semi annotation training pipeline to train large number of trays in parallel hence speeding the onboarding process. Inference – Faster and optimized inference. Reuse of old end points instead of recreating one for each tray hence avoiding impact to downstream systems.
- I've actively participated in creating services and deploying on the cloud edge.
- Developing and deploying classification and regression models.
- Applying statistical techniques and data visualization methods.
- Optimizing code for efficiency and scalability. Writing Python scripts and code for data preprocessing, feature engineering, and model development.
- Continuous engagement with global business teams on presentations and business requirements. Proposed new ideas to business.
- Got good experience with **Docker** and setting up debugging environments. Experienced in using Numpy, Pandas libraries in Python.
- Experience in **MLOps**. Implemented fully automatic **CI/CD pipelines**. Worked on docker containers.
- Worked on different **Azure, GCP and AWS cloud services** for deployments.

Python Engineer

Highmark Health

08/2020 - 09/2021

Achievements/Tasks

- Worked on NLP project called **OTIF-D**. This project is a KPI metric to analyze Product Availability Miss in Delivery Phase.
- Experience with modeling techniques such as linear models, decision trees, k-nearest-neighbor, support vector machines, cluster analyses, ensembling methods.
- Actively participated in identifying relevant data sources and collecting data for analysis. Exploring and analyzing data to extract meaningful insights. Developing predictive models and algorithms for data-driven decision-making. Applying statistical techniques and data visualization methods.
- Collaborating with data scientists and engineers to develop scalable machine learning workflows on distributed clusters.
- Experienced in working with various Python IDEs like IDLE, PyCharm, Visual studio code for developing and debugging Python scripts complying with PEP-8 standards. Experienced in working with virtual environments. Experience in **Azure, GCP and AWS Cloud services**.
- Involved in Business calls and gathering requirements from different SMEs who are owning different product groups.
- Worked with Python IDEs like IDLE, PyCharm, Visual studio code for developing and debugging Python scripts complying with PEP-8 standards.

Python Developer

Genworth Financials

11/2018 - 07/2020

Achievements/Tasks

- Conducted developed, conducted data analysis and processing using **Azure Databricks** for QnA Project which is NLP based problem. This is a Search (information retrieval) and Recommendation (information filtering) system using Deep Learning.
- My roles and responsibilities include creating APIs for different searches using **Flask**. Actively participated in **deployments**.
- Collaborated with cross-functional teams to develop solutions and resolve issues. Participated in code reviews and provided suggestions for improvements. Documented technical specifications and procedures for future reference.
- Worked on **DevOps** tools like Docker, Bitbucket, Jenkins, Artifactory.
- Actively participated in deploying the application by creating automation **CI/CD pipelines** and deployed application in different environments using **Kubernetes**.



WORK EXPERIENCE

Python Developer Nike

02/2018 - 10/2018

Achievements/Tasks

- Worked on FinTable which is an NLP based problem where we extract financial tables from Financial documents.
- Monitoring and troubleshooting big data infrastructure performance and scalability.
- Exploring and analyzing data to extract insights and patterns.
- Extracted data from database and Data Visualisation using **Power BI** using different idioms.
- Maintained and updated technical documentation for future reference.
- Designed and developed Python scripts for data manipulation and analysis using SQL Server and Python. Created and maintained SQL Server databases and tables. Utilized Python and **SQL** Server for reporting and visualization of data.
- Knowledge of **Azure AKS, AWS-** EC2, S3, RDS, Lambda for container orchestration. Worked on Docker, git, CI/CD
- Strong program analyzing skills, with ability to follow project standards. Experienced the full software lifecycle in SDLC, Agile methodologies

SAS Developer HSBC Bank

02/2015 - 07/2016

Achievements/Tasks

- Worked on **ML, Python, SAS, and SQL**.
- Gathering business requirements Design, manage and optimize data models and supporting various business programs
- Developing and modifying SAS programming based on the business requirements.
- Worked on converting SAS Programs to Python and queried data using SQL.
- Created buckets in S3 and glue **Jobs** with the details of the Code.



EDUCATION

Masters in Computer Science Southern Arkansas University

08/2016 - 12/2017

Magnolia, GPA: 3.51/4

Bachelors in Electronics and Communication Engineering JNTUA

06/2011 - 12/2015

India, GPA: 6.5/10



PUBLICATIONS

Research Paper

NLP Ops: A Comprehensive Framework for Secure Development and Scalable Deployment of Multifaceted LLMs in Generative AI



SOFT SKILLS

Teamwork

Communication

Time management

Problem-solving