RAAJESH LAGUDUVA RAMESHBABU

Data Scientist | MLOps | Team Lead

Trying to make the world a better place, one line of code at a time.

https://www.linkedin.com/in/raajeshlr

ML Dev & MLOps - https://github.com/raajeshlr?tab=repositories

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Mace Surabi, Chennai.

Capgemini - 9 Years

B.E ECE: 86.3 %

SKILLS

- Machine Learning, Deep Learning, NLP, Python, RNN, LSTM, Keras, PyTorch, OpenCV, MongoDB, SQL.
- GCP MLOps E2E, AWS MLOps E2E, GCP Vertex AI, AWS Sage Maker, DVC, GitHub Actions, Docker, Kubernetes, Cloud Formation, BYOM, Kubeflow, Databricks, MLflow, Model Monitoring.

MLOPS WORK EXPERIENCE

AWS MLOps - https://github.com/raajeshlr/Resume/blob/master/Architecture%20Image%20AWS.PNG

- Implemented CI/CD DevOps Pipeline for Machine Learning models and used AWS resources like S3, Code-Commit, Code-Build, Code-Pipeline and EKS. Created Docker containers for each ML components.
- Implemented different steps of Machine Learning Pipelines through AWS SageMaker.
- Created the Infrastructure through Cloud Formation and automated it using the bash scripts.
- Deployed the containers on the EKS/ECS Clusters through Code-Build commands, used Kubernetes commands.
- Experienced on creating Kubernetes Clusters, exposing, and scaling the pods.

GCP MLOps - https://github.com/raajeshlr/Resume/blob/master/Architecture%20Image%20GCP.PNG

- Implemented CI/CD DevOps Pipeline for Machine Learning models and used GCP resources like Cloud Source Repo, Cloud Build for triggers, Cloud Function.
- Implemented Machine Learning Pipelines using Kubeflow components and deployed it to GCP Vertex AI.
- Scheduled periodic jobs for running pipelines using Cloud-Scheduler, Cloud Pub/Sub, Cloud Function.

MLflow

- Implemented Machine Learning Pipelines on MLflow, created experiments and registered the best models.
- Deployed the models using both the real time inferencing as well as the batch transform.
- Developed model monitoring system and integrated with MLflow, used DVC for version control, GitHub actions for automated Python testing.
- Developed the production ready ML Models and took care of user Authentication by SSO Azure AD, installed SSL certificates on VM for secure https transport, integrated with different systems for ML Pipelines starting from the data ingestion part till the model serving part.

ML DEVELOPMENT WORK EXPERIENCE — Infosys Ltd, Dec 2018 – June 2021

Infosys Intelligent Assistant - To automate support projects

- Developed web app and used Angular (UI), Python on business layer, MongoDB on Data Layer.
- Pulled tickets history from ISTM and used Algorithms like Logistic Regression, Random Forests, Decision Trees, BERT for ticket category classification.
- Implemented E2E Machine Learning Pipelines for training and Inferencing.
- Implemented text rank for related tickets search and provided automatic solutions from KB.

Infosys Fraud Detector

- Have used LSTM + CNN based ensemble network for identifying fraudulent info in text and numerical data.
- Deep Learning model + NLP techniques Spacy, tesseract, bounding box for identifying tampered images.
- Used Docker for Deployment, also implemented Azure AD Single Sign On (SSO) and 3-tier architecture.

Infosys Intelligent Chatbot – Understands user screen and provides solution

- Developed Microsoft Azure Chatbot using node.js and used Python for backend Machine Learning.
- Used One-Shot Learning, NLP techniques, and built with QnA and RPA Services.
- Deployed Python code to Azure as a Docker Image.

Comprehensive cross check for new joiners

- Developed Python Bots for extracting fields from documents and pdfs, comparing it with SAP DB data.
- Created Deployment pipelines of this project in the Virtual Machines.
- It is for the HR Team and the product is live, it automated the manual efforts and reduced FTE's.

Signature classification using CNN

- Started this project from scratch, collected the images, labelled it, trained using CNN model.
- Written the Python code for cropping, finding the coordinates and completed this project.

INTERNSHIP EXPERIENCE

https://theschoolof.ai/

Extensive Vision for AI - CNN

- CNN Projects in Keras - https://github.com/raajeshlr/CNN_KERAS_NLP_INTRO_EVA1_INTERNSHIP
- CNN Projects in PyTorch - https://github.com/raajeshlr/CNN_PyTorch_EVA4B2_Internship
- We worked on the concepts like Image Classification, Object Detection using YOLO v3, Transfer Learning, Super Convergence, Landmark's Detection.

Natural Language Processing - NLP

- NLP Projects in PyTorch - https://github.com/raajeshlr/NLP-END
- We worked on the concepts like Text Classification, Sequence to Sequence translation using multi head attention models.

Extensive Machine Learning Operations MLOPS - EMLO

- MLOps - https://github.com/emlopsinfy?tab=repositories
- We worked on Docker Internals, Kubernetes Clusters, Heroku, CI/CD, Model Deployment on AWS EC2.

JUNIOR ML ENGINEER WORK EXPERIENCE — TCS, Dec 2014 – Nov 2018

Home Credit Default Risk

- Our goal is to predict loan defaulters using Logistic Regression, Random Forest, and LightGBM model.
- Performed EDA, preprocessing done, tried feature engineering, and evaluated with ROC AUC.

Finding Donors for Charity

- Our goal is to predict individuals makes money > $50,000 to appeal donor for a non-profit organization.
- Performed EDA, pre-processing including skewed continuous feature transformation, normalization, encoding.
- Performed Grid Search CV and fine-tuned essential parameters for GBM, which achieved 87% test accuracy.

Densely Connected Convolutional Networks - Dense-Net

- CIFAR10 Dataset: Dense-Net Paper https://arxiv.org/pdf/1608.06993.pdf
- Created Dense-Net architecture with three convolution blocks and two Transition blocks.
- Achieved the max validation accuracy of 88% after fine-tuning and implementing OneCycleLR.

Creating Customer Segments

- Developed Unsupervised Learning, clustering technique, demonstrated feature scaling, dimensionality reduction and feature transformation using PCA, and identify customer segments hidden in the data.
- Developed K-Means clustering algorithm and GMM and measured performance with Silhouette score.

Convolutional Neural Networks using Fashion MNIST Data - No Obsolete method

- Goal is to achieve 99.2% Val Accuracy with less than 20,000 Hyper-parameters (No Hidden layers should be used.
- Developed the model with a high-level framework Keras, with selection of TensorFlow for backend.
- The model achieved 99.2% validation accuracy in 11 Epochs.

Restaurant Review Management System

- Goal is to classify reviews, performed cleaning, stemming, created corpus and bag of words with 2000 features.
- Implemented Gaussian Naïve Bayes Classifier, and trained and tested the model, evaluated using f1 score.

Certificates

- ML Nanodegree Udacity, Sequence Models - Coursera, Machine Learning - Coursera, Machine Learning A-Z Udemy.

Honor Awards

- Impact creator award from Infosys
- Best performer of the year award from TCS
- Service and commitment award from TCS.

Languages

- Sourashtra, English, Tamil, RW Hindi, Learning Kannada.

Achievements

- Secured 'Certificate A' Exam under authority of, Ministry of Defense, Government of India.
- Completed Hindi Exams until Praveshika.
- Presented Parallel Parking Robots and Image Processing surveillance system papers during college.