POOJA SUNKARA

(Machine Learning Engineer)

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Professional Summary

- I am a Machine Learning Engineer with experience of developing end-to-end machine learning, Deep Learning , Natural Language processing and Computer Vision pipelines.
- Work experience in **Deep learning with computer vision** techniques, image processing ,transformation, image segmentation algorithms, Auto encoders, GAN's,object detection, edge detection algorithms worked with convolutional neural network, transfer learning with different type of pre-build models like Google Inception, Fast-RCNN, YOLO, VGG so on.
- Work experience in **Deep learning with Natural Language Processing(NLP)** techniques data pre-processing pos tagging, chunking, NER, sentence parsers, web scraping, information extraction, text classification, similarity models, sentiment analysis, conversational assistant, TF-IDF, word embedding- wor2vec, doc2vec, glove, bag-of-words, n-gram with deep neural models -RNN,LSTM,BI-LSTM ,Sequence models so on.
- Work experience with **Transformer models** Hugging faces, Bert,ALBert,RoBert,Bio-Bert,GPT-2,Allen NLP so on.
- Work experience with machine learning classification, regression and clustering algorithms.
- Work experience on design and development of **MLOps** pipeline using **MLFlow, Kubeflow, AzureML, Azure Container Instance, Azure Kubernetes services** and **Azure Devops**. Hands-on experience of MLOps in **GCP** and **AWS** as well.
- Building scalable ML pipeline using components from **Tensorflow Extended**, Orchestrate ml pipeline with Apache Beam, Apache Airflow and Kubeflow pipelines and tf data validation, transform, model analysis, serving and tensorflow lite.
- Design, build and optimize applications containerization and orchestration with Docker and Kubernetes.
- Proficient in working and writing analytical queries on databases like: SQL, MySQL, MSSQL, and Oracle.
- Experience on Rest API services **Flask** and **Django**.
- Experience working in cross-functional Agile engineering teams

Technical Skills

- **ML Frameworks/Ecosystems** — TensorFlow, Pytorch , Keras , Scikit-learn and OpenCV.
- **NLP** — NLTK, Gensim, spaCy and Transformers
- **MLOps** — MLflow, Docker and Kubernetes.
- **Cloud Services** — Azure ML, Databricks, Devops, AWS and GCP.
- **Languages** — Python, R, SQL and Java
- **GitOps, CI/CD** — Git
- **Visual Analytics/Observability** — Tableau, Tensor board Data Visualization tools
- **RestAPI** — Flask, Django.
- **Operating Systems (OS)** — Linux,Ubuntu, Windows

Education:

Andhra University – Visakhapatnam **2013-2016**

Master of Computer Applications specialization with **Artificial Intelligence and Big data** achieved **Gold medals** and **Abdul Kalam Parthiba** award from Andhra Pradesh government for academic excellence.

Certifications:

Deep Learning Nano degree, Deep Learning specialization, Natural language processing specialization, Machine learning on Google cloud Platform specialization, AWS.

Work Experience:

Accenture Private Limited (Data Scientist) Nov2020 – Now

Projects:

- **Bio Indexing Automation:** Bio indexing automation is to identify the entities in the Curated data collected from multiple data sources and file formats. Consisting of 5 different modules related of Bio Curation and Pharms indexing etc. All the entities such as disease, complication can be automatically detected from unstructured data based on the word ontology and can be stored in relevant data fields.

  Models: NER, Bio-BERT, Spacy techniques, Tf-idf and Doc2vec.
  Technologies: Python, Pytorch, Gensim, Sklearn, NLTK,Spacy, MLOPS, MLflow, Azure ML, AKS, ACI, AzureDevops, Docker.

Tata consultancy services (AI/ML Engineer) Nov2016 – Sep2020

Projects :

- **IPAT (Infineon Personal Assistant):** IPAT is a chatbot, designed with intelligent search feature to provide fast solution of customer query in conversational manner. It searches query from isolar existing ticket and understand user context. It guides user to get more accurate solution based on feedback and still user is not satisfied, give the option to create isolar ticket also. It has capability of self-training and also get it trained based on the user feedback.
  Case studies: Intelligent search (recency,frequency,feedback and priority based), Next Word Prediction, Feedback Mechanism, Multilingual**.**
  Models: LSI, LDA, Bert, word2vec, doc2vec, glove, LSTM, Bi-LSTM, N-gram, Elmo.
  Technologies: Python, Pandas, Sklearn, Gensim, Tennsorflow, Pytorch, Keras, NLTK and Microsoft Azure cloud platform.
- **Infineon Email Classification:** Created multiclass classification models for classify Infineon product emails into right categories**.**
  Models: Naive Bayes, SVM, Random forest, Multinomial Logistic Regression, Decision tree, Cross validation techniques, Hyper parameter tuning.
  Technologies: Python, SkLearn, Pandas and NLTK, Azure machine learning studio.
- **Panasonic Optimal QSR Parking :** Created a video analytics based solution for vehicle detection, tracking and counting from parking place in quick service restaurant for checking the space availability, count number of vehicles for knowing how many vehicles coming inside and going out, track the vehicle up to camera visibility.
  Models: YOLO, Google Inception, Fast-RNN, Custom CNN model(best fit YOLO)
  Technologies: Pytorch, Tensorflow, Python, Opencv, Dlib, AWS cloud platform.

- **Nokia Care Automation**: Created application for check the ticket in database and bring up the ticket that has best/closet match for the problem in the new ticket and best expert who can solve the issue from the team so that the request of the issue can approach him directly for quick resolution.
  Models: LDA, LSI, Word2vec, Doc2vec, Glove, TF-IDF, Bag-of-words.
  Technologies: Python, Pandas, Numpy, NLTK,Gensim.

R&D Projects:

- Product and gamble object detection: Created image classification for detecting and counting P&G products in offline and online store. python, Opencv, Numpy, Tensorflow and AWS.
- YouTube recommendation system on GCP using tensorflow.
- Time series analysis using RNN,LSTM using tensorflow on GCP
- Facial expression recognition using Opencv ,CNN, Pytorch.
- Detecting COVID-19 with chest X-Ray using Opencv, Pytorch.
- Real time OCR and Text detection using Opencv, Tesseract.
- Image classification and detection with Amazon sagemaker
- Sentiment analysis with Deep Learning using BERT.