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Indrajeet Kumar

Profile snapshot

Data scientist having experience in ML and deep learning domain. Skilled in python, predictive modeling, Image processing, statistical modeling, MLOps. Open to learn new technologies.

Education

BTech &MTech (IDD)	Indian Institute of Technology BHU Varanasi	2014-19	7.05

Work Experience

Bosch (Senior Data Scientist) @ Bangalore	**2023 - current**

Build and Integrate Tools for diverse and efficient Pre-data selection for model training.

Design and Build Application for Image Retrieval using Scene Graph Generation: SIGNIFI

- Design the ontology for building scene-graph out of images.
- Build and deploy microservices application for model inference and image retrieval.
- This helped in retrieving diverse data selection and specific scenario based on edge cases for robust model training and improvement.

Exposure: Docker, FastAPI, MongoDB, image embedding.

Design and Build Tool for Interesting Video snippet(timestamps) selection from long sequence video.

- Analyze the distribution of frame embedding of video in time-series fashion.
- Find the Patterns of gap and break in time-series data.
- Used general purpose image embedding (DINOv2) model for frame embedding.
- Used local variance analysis for gap and break finding in time-series data.
- Build and develop REST APIs tool.
- This helped in efficiently retrieving specific and diverse video snippet for training model based on transformer for perception and planning.

Exposure: FastAPI, REST APIs, Dinov2, video processing, Kalman filter.

Innominds (Ace Vision Group) (Data Scientist) @ Bangalore	**2021 - 2023**

- Worked on image processing for OCT images of eye. Finding eye pore diameter, distance, volume, radius, depth using detection and segmentation technique.
- Created hybrid network using U-Net and Mobile Net arch to get real time inference.
- Fine-tune YOLO-v5 model for eye pore detection.
- Implemented custom weighted BCE + Dice loss for segmentation.
- Implemented specific automatic annotation technique using image processing.
- Used multiprocessing and multithreading to run application faster.

Exposure: Python, Pytorch, Computer vision, Azure, cv2.

Boltzmann Labs (AI Developer) @ Bangalore	July 2019 – sep 2020

Worked on building AI Libraries: Full-Stack Drug Discovery pipeline using AI.

Responsibilities:

- Build the model for Drug-Target binding affinity prediction using CNN.
- Build GCN models for drug properties prediction.
- Build GCN based Multi label classification model for metabolic pathway prediction.
- Implemented interpretabilities for all the models using ex-Integrated Grad, LRP.

Exposure: Python, Rdkit, GCN based model (GCN, GAT, MPNN), CNN.

Technical Exposure:

Language: Python, C++ **| Database:** Mysql, MongoDB **| ML Tools:** Sklearn, Scipy, Numpy, statsmodels **| DL Framework:** PyTorch | **ML Algorithms:** KNN, Logistic reg, Linear reg, SVM, Naïve Bayes, Random Forest **| DL Algorithms**: MLP, CNN, RCNN, RNN, LSTM, GCN, Transformer **| Application development:** FastApi, Docker.

Online Courses:

Applied Machine Learning from Applied AI.

Position Of Responsibility

Training and Placement Head coordinator 2018-19.
Analytical event head Spirit-17.
Event coordinator of dakshana at IIT BHU.

Links

https://github.com/abchotujnn1/
https://www.linkedin.com/in/indrajeet-kumar-654aa1148/
https://medium.com/@indrajeetkumar.iitbhu14