GANJI VARSHITHA

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VARSHITHAGANJI

Education

2024 B.Tech in Artificial Intelligence, Indian Institute of Technology Hyderabad **(CGPA: 8.34/10)**
2020 Class XII Sri Chaitanya Junior College, Hyderabad **(98.6%)**
2018 Class X Little Flower School, Hyderabad **(96.4 %)**

Skills

Programming Languages : C, C++, Python, Java Script, HTML, CSS, MySQL, Matlab.
Frameworks/Libraries :
ML: TensorFlow, PyTorch,Scikit Learn, ML Flow, MONAI, Pandas, Numpy, Scipy, Seaborn, Matplotlib, CvxPy, OpenCV, ITK, Nibabel
Web Dev: ReactJS, NodeJS, Django, Bootstrap
Developer Tools : Linux, Git, GitHub, LaTex, Bash, Anaconda, Jupyter Notebooks, VS Code, Pycharm, (Remote Development) MobaXterm, WinSCP, Docker.
5 star on HackerRank (SQL)

Work Experience

Research Intern at Philips Innovation Campus, Bangalore (Feb 2023 - July 2023)

Designed segmentation algorithms for lung segmentation as part of the preprocessing pipeline.
Integrated workflow of machine learning pipelines in CT scan machines.
Integrated training and inference pipelines to run on CPU, Single GPU, and Multi-GPU in both PyTorch and Tensorflow frameworks.

Tools used : Tensorflow, Pytorch, Linux

Relevant Courses

Machine Learning: Programming for AI, Foundation of ML, Deep Learning, Reinforcement Learning Advanced Topics in ML, Explainability in ML
Computer Science: DBMS, Data Structures, Algorithms, Operating Systems, Computer Architecture, Compilers, Compiler Engineering Computer Networks, Cryptology, Topics in Computing
Mathematics: Discrete Math, Probability and Random Variables, Matrix Theory, Convex Optimization, Applied Statistics, Numerical Analysis, Complex Analysis

Projects

Database Project

DBMS Course (CS3563) project instructed by Prof. Manohar Kaul.
PostgreSQL was used to build the database 'Research Papers'.
Created an ER diagram, preprocessed the data thoroughly, and formatted it to CSV files.
Used a parser(python code) to load 6 lakh research paper entries from a text file into the database.
Tools used :Python, PostgresQL, Linux

News Image Captioning

Course Project for NLP course instructed by Maunendra.
Leveraged LLMs like T5, MobileNetV2 and cross modal attention module with pruning and merging tokens framework.
We scraped around 1000 images along with associated captions and news articles from Indian Express online using Beautiful soup module.
Tools used :Huggingface, Pytorch, pandas, pillow

Yolov3 implementation with voice feedback

Group project for the course Deep Learning, instructed by Prof. Sumohana Channapayya.
Implemented Yolov3 architecture in TensorFlow and trained on coco dataset using pretrained weights.
Used gTTs library to convert the predictions to speech

Sign Language App

Personal Project for translating Indian Sign Language actions into text.
Developed a custom LSTM model using Mediapipe, OpenCV, gTTs, and TensorFlow.
Deployed a real-time web app using ReactJS to predict actions with a latency of 30 frames.

Sentiment Analysis of IMDB Reviews

Project for the course Programming For AI, instructed by Prof. Sumohana Channapayya.
Performed preprocessing techniques for cleaning the data and embedding the text to integer sequence by tokenization.
Researched various RNN models for analyzing the polarity of the review and classifying it as positive or negative.
Tools used : Tensorflow,Pandas,nltk

Investigating XAI models for Vision Transformers

Explainability in ML course(AI5020) project instructed by Prof. Konda Reddy
Explored gradient-based visualizations for ViT models for classification tasks.
Experimented with new techniques to improve SOTA methods and analyzed the faithfulness of explanations.

POR/Extracurricular

Epoch Club(AI/ML Club IITH)
Core Member - Conducted community sessions, ML research paper reviews.
Teaching assistant for Operating Systems and Programming For AI course.
Voluntered for NSS at IITH