Vedanshu Dewangan

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Education

IIIT Naya Raipur **8.66/10**
B.Tech in Electronics and Communication *Dec. 2020 – June 2024*

Vishwadeep Senior Secondary School **89%/100**
CBSE - Class-XII *May. 2018 – May 2019*

Vishwadeep Senior Secondary School **10/10**
CBSE - Class-X *May. 2016 – May 2017*

Experience

Computer Vision Intern **January 2024 – Present**
Quidich Innovation Labs

- Building a model to detect and localize the 3D location of an object using corresponding images captured from different cameras.
- The model first used an object detection model to detect and localize the object in images of all cameras
- Then utilized various triangulation methods to estimate it's real-world location

Machine Learning Intern **November 2023 – December 2023**
Intellicuria Healthcare AI

- Built a model to identify diseases or congenital conditions in newborns through images.
- The model utilized a pre-trained Vision Transformer (ViT) as an encoder to extract feature vectors from images, and a GPT-2 pre-trained language model served as the decoder.
- Model was fine-tuned on a dedicated image captioning dataset, enabling it to generate specific and relevant captions describing the health conditions observed in the images.

Projects

Deep Learning and Computer Vision Based UAV Detection | *Python, Computer Vision, Tensorflow, CUDA*

- This project uses an efficient algorithm for UAV Detection which works on the principles of Computer vision.
- It uses YOLOv5 algorithm to detect UAVs in a given RGB image with reasonable accuracy in real-time.
- Various Image-preprocessing techniques have been applied to further increase the detection accuracy of the model.

Deep learning and EEG signals based Emotion Classification | *Python, OpenCV, Scikit-Learn, Tensorflow, MATLAB*

- This is a deep learning-based project for Emotion recognition - positive, negative, or neutral using pre-trained models.
- Cross-wavelet spectrum images of EEG signals were generated using MATLAB for classification.
- Additional Flatten, Dropout, and Batch-Normalization layers were added to increase the classification accuracy.

Brain Tumor Identification and Classification from MRI images using Computer Vision | *OpenCV, Pandas*

- This project employs the OpenCV library to detect the presence of brain tumors in individuals by analyzing MIR images.
- It goes beyond detection to classify the specific type of tumor present. Thus aiding in early diagnosis and precise classification of brain tumors, enhancing medical treatment strategies.

Sentiment Analysis of Tweets using Natural Language Processing NLP | *Python, NLP, NumPy, Pandas, Scikit-Learn*

- It is a NLP-based Twitter sentiment analysis project that categorizes a tweet having positive or negative sentiments.
- For this analysis, Sentiment140 Dataset is used which contains 1,600000 tweets categorized as positive and negative.
- The TF-IDF Vectorizer converts text to numerical representation, followed by classification using the Naive Bayes model.

Technical Skills

Languages: C++, Java, Python, SQL, HTML/CSS, JavaScript
Frameworks/Libraries/Tools: Pandas, NumPy, Scikit-Learn, TensorFlow, Keras, OpenCV, Linux, React.js, Git, Github
Fundamentals: Operating System, DBMS, Data structure and Algorithms, OOP Concepts
Soft Skills: Multi-Tasking, Communication, Leadership, Time-management

Position of Responsibilities

- Managed and hosted 8th IEEE International WIE conference on Electrical and Computer Engineering 2022.
- Volunteered in conducting and managing a technical event called " Electrobliz" in the annual fest of the college

Publication

Application of Image Processing Techniques for UAV Detection Using Deep Learning and Distance-Wise Analysis, Vedanshu Dewangan ∗, Aditya Saxena, Rahul Thakur and Shrivishal Tripathi