Prajwal Uday

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LinkedIn Profile
Bengaluru, KA, India

Education

- **Manipal Institute of Technology** — Manipal, KA
  B. Tech. in Mechanical and Minor in Computational Mathematics; CGPA: 8.17/10.00 — *Aug. 2020 – Present*

Skills

- **Languages**: Python, C/C++, MATLAB **Frameworks**: PyTorch, TensorFlow, Keras, OpenCV, HuggingFace

Experience

- **TATA Advanced Systems Limited** — Bengaluru, KA
  Computer Vision Intern — *Jun. 2022 - Jul. 2022*
  - **Project Course**: Developed Convolutional Neural Networks to be used by a swarm of aircraft to implement techniques such as Human Detection and Tracking, Natural Calamity Classification, and Semantic Segmentation.
  - **Algorithm/Framework**: Annotated images and implemented YOLOv5 (You Only Look Once), YOLOv3 and SSD algorithms for object detection using Tensorflow2.0 framework.
- **AeroMIT, Autonomous Drone Research** — Manipal, KA
  Senior Computer Vision Research Engineer — *Jun. 2021 - Present*
  - **Research Project 1**: Emergency Landing Zone Detection of UAVs using Deep Learning based Image Reconstruction and Segmentation. (Review Phase)
  - **Research Project 2**: Precise Payload Delivery via UAVs: An Approach Using Object Detection Algorithms (Accepted-Publication Phase)
  - **Projects**: Developed Neural Network architectures, which primarily focused on techniques like Image Reconstruction, Image Translation, Object Detection, Tracking and Segmentation in order to put them into working to build autonomous multi-copters and fixed wing aircraft.

Projects

- **Emotion Tweets Classification**
  Fine-Tuning RoBERTa base — *Nov. 2022 - Dec. 2022*
  - **Multi-Class Classification**: Used the 'emotion' dataset from 'TweetEval' benchmark available on the Hugging Face hub to Fine-tune RoBERTa for the purpose of Emotion Tweets Classification. *Project Link*
  - **Multi-Label Classification**: Used the 'GoEmotion' dataset from the Hugging Face hub to Fine-tune RoBERTa for the purpose of Emotion Tweets Classification. Achieved a F1 score of 0.95 trained on 5 epochs to classify tweets on 28 different labels. *Project Link*
- **Social Summer of Code**
  Open Source Contribution - Deep Learning Simplified — *Jul. 2022 - Sep. 2022*
  - **OCR**: Leveraging the power of PyTesseract and Keras-OCR for Text Extractions to tag each image with its brand name in the supermarket.
- **Chatbot for Community-Library website**
  Deep Learning / Natural Language Processing — *Sep. 2022*
  - **Project Outcome**: Developed a Chatbot for the website to help visitors with the services provided in the site. Used Text pre-processing techniques to create a bag-of-words model and a Neural Network to classify the category of user's message and give a random response. Deployed the final model on a local host using Flask.
- **Question Answering System — Seq2Seq** — *Project Link*
  Deep Learning / Natural Language Processing — *Oct. 2022*
  - **Project Outcome**: Developed a Question answering system using the seq2seq approach. SQuAD2.0 dataset to train and validate the LSTM model and it was trained for 1500 epochs keeping in mind the RAM and GPU limitations.
  - **Future Work**: To leverage the power of GloVe to convert text into Word Embeddings and integrate the model and deploy it as a chatbot on a web host using Flask and Heroku.