Yash Vadi

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Education

- **Indian Institute of Information Technology, Surat** — India
  Bachelor of Technology in ECE; CGPA: 8.53/10 — *2019 – 2023*
- **P.P. Savani Vidhyabhavan** — India
  Class XII; Percentile: 97.14% — *2017 – 2019*

Programming Skills

- **Languages**: Python, C, C++, SQL **Skills**: Deep Learning, Computer Vision, Natural Language Processing
- **Machine Learning**: Pytorch, Tensorflow, Keras **Data Wrangling**: Pandas, Seaborn, Matplotlib, Numpy

Manuscripts

- **Transformer based Joint Modeling for Automatic Essay Scoring and Off Topic Detection**
  Submitted and under review at EACL 2023
- **Open set dialect classification using Wav2vec2.0 model**
  Submitted and under review at IEEE ICASSP 2023

Experience

- **SHL** — Gurgaon, India
  Research Intern — *May 2022 – July 2023*
  - Created the **adversarial attack** pipeline for transformer-based regression and classification model to verify robustness towards adverse input.
  - Designed and carried out research to identify off-topic responses from spoken and written assessments.

  AI Intern — *December 2021 – March 2022*
  - Worked on Out-of-Domain detection in the context of natural language processing (**Conversational AI**) to enhance the performance of a dialogue-based chatbot.
  - Created an intent classifier that achieves **97% F1 score** for intent classification and also **98% AUROC** for out-of-domain information detection.
- **IIRS – ISRO (Indian Space Research Organization)** — Dehradun, India
  Research Intern — *September 2020 – November 2020*
  - Developed data and Training pipeline for Single Shot Detector model for high dimensional and high spatial resolution TIFF image data to detect infrastructure and vegetation.
  - Implemented MPCM **fuzzy clustering** algorithm for pixel-wise **soft classification** in NumPy.

Opensource Contribution

- **Devo-Worm** — https://www.github.com/devoworm/Digital-Bacillaria
  Digital Bacillaria
  - Utilized Faster RCNN model architecture to detect oriented bounding boxes and prepared data pipeline for training and preprocessing
  - Implemented **Multiple-Object-Tracking**, inspired by Hungarian algorithm, to analyze cell movement in microscopy video frames of diatoms.

Projects

- **Fuzzy C-means Image-Segmentation in PyTorch :** Defined an FCM clustering algorithm for image segmentation. Reduced time complexity by 3x time with the only CPU. Also, support GPU, which additionally diminishes execution time.
- **Face Landmarks Detection using CNN :** Trained a CNN to recognize face landmarks. Used DLib dataset, which had 6666 face pictures and 68-point landmarks for each face. Streamlined PyTorch data augmentation pipeline to enhance variance in input images, allowing the model to generalize more effectively.

Achievements

- **Kaggle - RSNA-MICCAI Brain Tumor Radiogenomic Classification :** Won Silver medal and secured **52nd** position globally across more than 1500 data scientists.
- **Mind to Market Innovation Challenge :** Awarded a grant of **2000 USD (1,47,499 INR)** for our proposal on Drone-based surveillance in the Creek Area in the Defense sector. The grant sanctioned is further used for prototyping of UAV featured with autonomous surveillance and High endurance for sustainability in desert areas