Sriharsha Annamaneni

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INDUSTRIAL EXPERIENCE

Senior Engineer, Bosch, Bengaluru May 2021 - present

- Built an Interior Monitoring System that guarantees safety, comfort, and convenience for all passengers in a car. The system comprises two essential attributes: Seat belt detection and Drowsiness detection.
- The Seat belt detection function ensures every person is wear ing a seat belt, while the Drowsiness detection function detects the driver's concentration levels while driving. The system delivers highly accurate predictive results with the help of uncertainty estima- tion algorithm, Evidential deep learning. GradCam++ algorithm is used to identify the specific features that cause False Positives and False Negatives, ensuring a comprehensive understanding of the predictive results. This system will be crucial in ensuring road safety and should be implemented in all cars
- Built a smarttest execution system, given a bug the system has to retrieve related test cases using NLP. The objectives of the system are faster root-cause analysis and problem recovery times, increase operational efficiency and improve computing resource utilization
- MPNet model is trained on the Custom Dataset using AdamW optimizer and cosine Similarity loss function achieved an accuracy of 65%, 15% improvement over the previous baseline. Selected for technical presentation at Bosch Conference on Systems and SW Engineering(BOCSE), 2022 and FIT.FEST, 2022 with paper titled "A Machine learning Solution for Regression Testcase selection"

Computer Vision Engineer, Aimlytics, Hyderabad Oct 2020 - May 2021

- Built a Proof of Concept for automatic speech dubbing that involves Automated Speech Recognition, Speaker Diarization and Text to Speech. Text to Speech synthesis model is trained on Indic TTS dataset. Trained the model from paper titled "Transfer learning from speaker verification to Multispeaker Text-to-speech synthesis" using custom dataset

Research Engineer, Sirena Technologies, Bengaluru Oct 2019 - Jun 2020

- Wake up word detection, Built an offline trigger word detector like "Ok Google", using Gated recurrent unit Networks
- Face Recognition, Built a Siamese Deep Neural Network for recognizing facial images captured by a camera, comparing it with the images in the database and retrieving information of the detected person. Improved the system's execution speed by 30% and the accuracy of the model is 99.8%
- Automatic Speech Recognition, Building a Robust ASR model for Indian English using existing ASR architecture Deepspeech2 on custom dataset

RESEARCH EXPERIENCE

Research Fellow, IIIT Hyderabad Nov 2017 - May 2019

- Deep Learning, specifically Model Compression techniques and Semantic Segmentation for Autonomous Navigation on Indian Roads. Implemented PSPNet, ERFNet, MobileNet and DeeplabV3 in pytorch
- Road Audit system design, retrieving the location of defects of the road not only due to regular wear and tear but also because of extreme events like storms over a period of time using video and GPS data

EDUCATION

Florida Institute of Technology, Melbourne, FL GPA: 3.7/4.0
Master of Science, Electrical Engineering 2016

Manipal Institute of Technology, Manipal, India GPA: 7.0/10
Bachelor of Engineering, Electronics and Communication Engineering 2014

PUBLICATIONS

[1] Efficient Semantic Segmentation using Gradual Grouping
Nikitha Vallurapalli*, **Sriharsha Annamaneni***, Girish Varma*, CV Jawahar*, Manu

Mathew, Soyeb Nagori , eprint arXiv:1806.08522
CVPR Workshop, 2018(oral), **Best Runner-up Award**

[2] Development of antenna deployment circuit for nano-satellites
Pramath Keny*, Arya Menon*, Madhura Rao*, Urvang Gaitonde*, Animesh Gupta*, **Annamaneni Sriharsha***
European Conference on Circuit Theory and Design (ECCTD), 2013

Tools Python, Pytorch, OpenCV, Rust, Optuna, dtale, Sci-Kit Learn, PostgreSQL, PySpark, Heroku, Pillow, spacy, Pomegranate, Streamlit, Fastapi, Gradio, Rubrix, Git, Data Version Control, Luigi, MLFlow, AWS