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Education

Indian Institute of Space Science and Technology **Sep. 2020 – May 2022**
M.Tech. in Machine Learning and Computing - CGPA - 9.07 *Thiruvananthapuram, kerala*

GPCET , JNTU Ananthapuramu **July. 2014 – May 2018**
B.Tech. in Electrical and Electronics Engineering - 84.46% *Kurnool, A.P*

Experience

Daimler Truck Innovation Center India **July 2022 – present**
Data Scientist

- Involved in building a Recommendation System for Predictive Quality use-case, in-order to recommend the failures of components in the production plant of Trucks
- Volunteered in improvising Lane Segmentation model for country road scenarios in Robot driven Trucks for rough road testing
- Participated in Hackathon and won rewards for building Employee Entry automation using Face Detection , Augmented Reality for post covid scenarios

ML Researcher at Subex AI Labs **Sep 2021 – June 2022**
Intern

- Involved in a research and Developed an Architecture for Orientation Aware Scene Text Detection , which is drafted as the **patent**.
- Combined Detection (RRPN++) and Recognition (Tesseract) to work as a Spotter.
- Involved in a research , to integrate counterfactual with Variational Autoencoder (like TCVAE , β-VAE)

Dr APJ Abdul Kalam Missile Complex - RCI - DRDO **October 2019 – September 2020**
Junior Reserch Fellow(JRF)

- Performing and Gathering data from Visual Inspection,Physical Inspection,Burn Test,Chord-Level-Testing,QT,AT
- Preprocessed data for further analysis
- Explored various ML classification algorithms and Ensemble Techniques to predict the Acceptance of a PCB in Servo Controller.
- Developed various models to increase the recall , accuracy .Found the appropriate model , which is able to increase the recall by 6% over existing model

Projects

Lane Segmentation for Country Road Scenarios | *Tensorflow*

- The idea is to improve the performance of the lane detection for country road scenarios using ERFnet and PIDNet architectures.
- Challenges are to overcome the scenarios like Sharp turns, adverse weather conditions and non stability of the input camera mounted on truck for off road
- Fine-tuned MAXIM model for low light image enhancement and adverse weather conditions
- Collected and augmented data to overcome uneven data distribution for sharp turns.

Recommendation System | *Pyspark, python , MLOps*

- The motivation is to develop a recommendation system using collaborative filtering to recommend the component failures during assembly in the production plant in-order to reduce the finances on rework rate.
- Created profiles based on unique vehicle configuration and calculated defect rate of failures
- Also used Association rules and DBSCAN clustering to find the associated failures

Orientation Aware Scene Text Detection | *Pytorch*

- The motivation is to develop a Text Detection architecture which should be able to detect the orientation of the text from (0 to 360 degrees) along with the Text Instance.
- As part of our research , developed an architecture which is able distinguish the text between 0 and 180 degrees.This helped us to extend our pipeline to identify the orientation of the text from (0 to 360 degrees) without disturbing the text instance detection

AutomatedML | *Python,Nosql:Cassandra, AWS , sklearn*

- CODE Demo video Link
- Developed a AutoML model which accepts any Dataset and will result the statitics of different Models and also recommend the best model and download link .
- Cassandra(Nosql) Database is used to load and retrieve the dataset
- Explored various ML Regression ,classification and Clustering Algorithms.

Face Attributes Recognition | *Python,opencv*

- CODE
- Explored various Image classification algorithms in Computer vision.
- Trained different models for all the different facial attribute recognition.
- Accumulated all the models to together.

Sentiment Analysis on Amazon Fine Food Reviews Data Set | *Python,nltk,gensim models*

- CODE
- Cleaned and Deduplicated the data.
- Trained own Word2Vec model using gensim text corpus and Tf-idf Word2Vec.
- Explored various ML classification algorithms and Ensemble Techniques to predict the positive or negitive review.

Technical Skills

Languages: Python, PySpark
Technologies/Frameworks: MLOps, Docker , Pytorch, TensorFlow, Keras, git, databricks, kubernetes
API with python : Flask , Django
Cloud Deployment : AWS , GCP , Azure , Heroku
DataBases: **SQL :** mySQL , **NoSQL :** mongoDB , cassandra