# Ankith Reddy Avula

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## Education

**University of Texas Arlington** **August 2022 – May 2024**
*Master of Science in Computer Science (GPA of 4.0 / 4.0)* *Arlington, TX*

**IIITDM Kurnool** **August 2018 – May 2022**
*Bachelor of Technology in Computer Engineering (GPA of 3.4 / 4.0)* *Kurnool, AP, India*

## Experience

**Samsung India** **May 2021 – November 2021**
*Research Intern* *Remote*

- Developed an Audio Source separation model for extraction of 4 different audio categories from a given audio track using **TensorFlow**, **UNets**, **Auto-Encoders**, and **Librosa**
- Designed an Audio separation model which extracts the bass, drums, vocals, and other category audios from the given audio file implementing Fourier transforms
- Deployed a model that generates separated audios of the above categories with a mean absolute error(MAE) of 1.3733

**Ismriti** **June 2019 – July 2019**
*Data Science Intern* *Kanpur, India*

- Developed a real-time facial emotion recognition system that recognizes and classifies the live facial emotion of the user using **Python**, **CNN**, **TensorFlow**, and **OpenCV**
- Designed a Model that classifies user's facial expressions with an accuracy of 98%

## Technical Skills

**Languages:** C++, Java, Python, HTML, CSS, JavaScript, PHP, SQL, Scala
**Technologies/Frameworks/Libraries:** TensorFlow, PyTorch, Flask, Git, Hadoop, Apache Spark, Apache Pig, Hive, SparkSQL, AWS

## Projects

**TWITTER SENTIMENT ANALYSIS USING DEEP LEARNING** | *Python, Pytorch, Tensorflow, BERT* **Github**

- Implemented various deep learning models, including BERT, CNN, LSTM, and BiLSTM, for sentiment analysis on Twitter data and explored combinations such as BERT-CNN, BERT-LSTM, and BERT-BiLSTM to predict sentiments (positive, negative, neutral, or irrelevant) associated with Twitter entities.
- Handled sentiment analysis dataset, recognizing "irrelevant" as a distinct category, Collaborated on Jupyter Notebooks with team for testing and experimentation on models.

**MULTI-LABEL CLASSIFICATION FOR LAND COVER DETECTION** | *Python, PyTorch, PIL* **Github**

- Executed a Transfer learning approach to identify the land cover features from a given multi-spectral image consisting of 12 bands from Sentinel-2 Satellite
- Analyzed the raster bands' reactivity to different land forms based on resolutions
- Obtained a recall of 63.80 for all the bands and a recall of 63.00 when used the RGB bands for prediction

**OCULAR DISEASE DETECTION WEB APPLICATION** | *Python, Flask, Pytorch* Github

- Developed a web application using Flask for user dashboard functionality and cataract prediction specifically focusing on cataract-positive cases for prediction.
- Implemented a Transfer Learning approach to train the customized VGG-16 model using Pytorch with an accuracy of 97%

**NEIGHBOURHOOD ANALYSIS USING PYTHON** | *Python, Folium, Foursquare API, Geocoder* **Github**

- Analyzed the neighborhoods of New York City and identified areas with high potential for Indian Cuisine Restaurants
- Identified localities preferable to live where Indian Cuisine Restaurants are available using a rating scale of 10

**PREMIER LEAGUE RESULT PREDICTION** | *Python, SVM* **Github**

- Predicted match results by taking the history of respective teams, the venue of the match, and the season of the IPL series with an accuracy of 99%

**HEART FAILURE RATE PREDICTION** | *Python, Pytorch*

- Developed a heart failure rate prediction model using PyTorch, leveraging the "Heart Failure Clinical Records Dataset" from Kaggle, encompassing diverse clinical features indicative of heart health.

## Awards/Achievements

- Ranked **Top 10** in **IEEE–ICETCI 2021** Competition organized in association with **RRSC–Central**, **NRSC Nagpur**, **ISRO** on **'Machine learning-based feature extraction of Electrical Substations from Satellite data'** using Open-Source tools

## Profile Links

HackerRank LeetCode Github