**Pavan Sai Prasanth Sabnaveesu**

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# **Professional Summary**

* Applied machine learning algorithms such as all regression models, SVN, random forests, and XGBoost to predict classification and regression to various applications
* Designed and developed full-stack AI based applications using Python, Django, Flask, HTML, CSS, jQuery, and bootstrap as front-end and machine learning, deep learning algorithms, and natural language processing techniques as back-end code
* Experienced working with AI architectures such as CNN, Mask R CNN, YOLOv7, YOLOv8, RNN, LSTM, GAN, and GRU for classification, object recognition, and object segmentation

# **Key Areas of Expertise**

Programming : Python (Core & Data Science), R

Web development : Django, HTML, CSS, jQuery, Bootstrap, Rest-API, and Flask

IDE & Environment : Jupyter Notebook, Anaconda, PyCharm, Visual and R-studios

Database : SQL, and PostgreSQL

Data Visualization : Matplotlib, Seaborn, Plotly, and ggplot3

Machine Learning : NumPy, Pandas, and Scikit-learn

Deep Learning & NLP : TensorFlow, Keras, Pytorch, Open CV, NLTK, Gensim, TextBlob, and Spacy

Cloud computing : Amazon Web Service, Google Cloud

**Professional Experience**

*Graduate Research Assistant***, Texas A&M University** *February 2023 - Present*

* Developed convolution neural networks full code without using predefined frameworks using Python
* Implemented detection and segmentation for wind turbines blades using Mask R-CNN and YOLOv7 algorithms using Python, Keras, & TensorFlow
* Researched wind turbine blades detection and segmentation using YOLOv8 with varying IoU thresholds

**NEXT ROW Private Limited (Software Developer – AI )** *March 2021 – Nov 2022*

**Project: Chinese to English language translation using NLTK and wubi**

* Cleansed sentences, applied wubi technique, and tokenized given sentences for translation
* Channeled prepared data through encoder, decoder, and applied GRU Architecture to translate text from Chinese to English

**Project: Object detection using Keras - Retina Net of satellite and non-satellite images**

* Extracted all features by drawing anchor boxes and applying Reginal Proposed Network
* Recognized all objects of aerial and non-aerial images using of Retina-Net architecture
* Designed data pipelines to source data from disparate data sources and rest API framework using Python to enable amazon web service cloud services

**Education**

**Texas A&M University Kingsville**

Master of Science, Computer Science *January 2023 - Present*

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**Academic Projects**

**API for Detecting Spam Messages using Naive Bayes and NLTK**

* Framed a Rest-API for user-friendly access and displayed detected spam messages and deployed entire application using Flask and achieved an accuracy of 95%
* Applied NLP techniques using Naive Bayes classifier to classify different spam messages
* Automated and designed pipelines of cleansing, mapping, and feature engineering for model building using machine learning algorithms for flagging spam messages

**Time Series Forecasting of enterprise sales using Seasonal Auto-ARIMA model.**

* Visualized and prepared for time-series data using decomposition and stationary process
* Applied and implemented Auto-ARIMA and XGBoost algorithms to forecast sales

**Lane detection for self-driving cars using OpenCV**

* Applied Canny Edge Detector, defined Region of Interest, masked yellow and white lines
* Transformed data using Hough transformations and was able to identify Hough lines in video and images