



Face Emotion and Age Detection

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PROBLEM STATMENT

- You are tasked to perform Detecting Spam Emails Using TensorFlow. Implement and build a deep-learning model for Spam Detection.
- The model we will try to implement will be a Classifier, which would give binary outputs- either spam or ham. Steps involved



PROPOSED SYSTEM

- .Import dependencies; load and analyze the spam text data. .Split the data into train and testsub-datasets, and text preprocessing.
- Train our model using the three deep-learning algorithms.
- Compare results and select the best model. Use the final classifierto detect spam messages.



ALGORITHM

- here are three popular deep learning algorithms commonly used for detecting spam: Neural Networks (CNNs): CNNs are commonly used for image recognition tasks, but they can also be applied to text classification, such as spam detection.
- By treating the text as an image, CNNs can learn hierarchical patterns of features in the text, allowing them to identify spammy characteristics. (RNNs): RNNs, especially variants like Long Short-Term Memory (LSTM) networks, are effective for processing sequential data like text.
- They can capture dependencies between words in a message, enabling them to detect spam based on patterns or sequences Belief Networks (DBNs): DBNs are a type of neural network that consists of multiple layers of stochastic, latent variables.
- They have been successfully applied to various classification tasks, including spam detection. DBNs can learn complex patterns and relationships in the data.



DEPLOYMENT

- RNNs: Effective at capturing sequential patterns but may struggle with long-range dependencies. CNNs: Excellent at capturing spatial patterns in textual data but may overlook temporal relationships.
- LSTMs: Specifically designed to address the vanishing gradient problem in RNNs, making them effective for capturing long-term dependencies in sequential data.
- RNNs: Require significant computational resources due to their recurrent nature, making them slower to train compared to CNNs and LSTMs. CNNs: Less computationally intensive than RNNs, especially when dealing with text data, as they can exploit parallelism effectively.
- LSTMs: More computationally intensive than traditional RNNs but generally faster to train compared to RNNs due to their ability to capture long-term dependencies more efficiently.

GITHUB LINK;

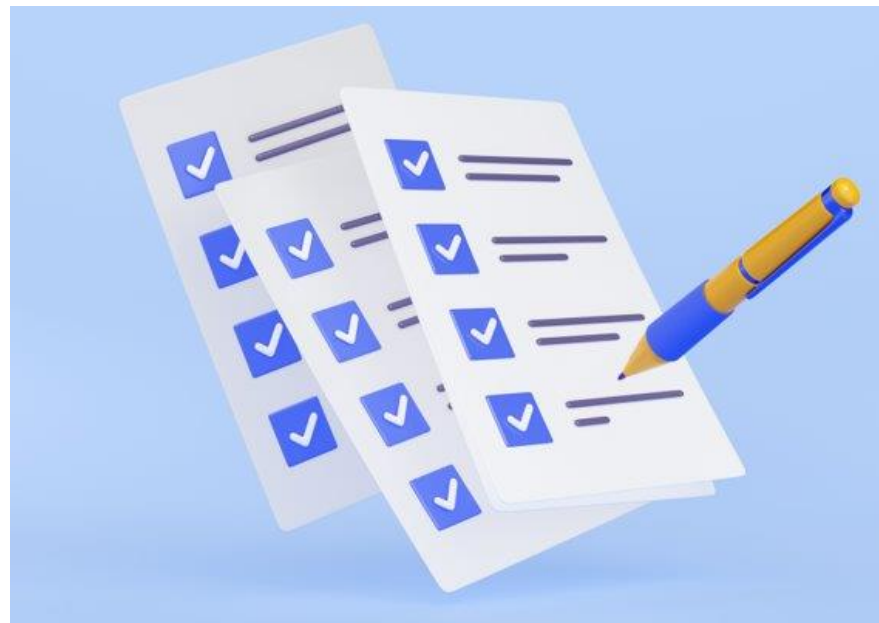
<https://github.com/boopathirio>

Video Of The Project:

https://github.com/boopathirio/Earthquake_Prediction_System

CONCLUSION

- Recurrent Neural Networks (RNNs) excel at capturing sequential patterns but may struggle with long-range dependencies and require significant computational resources.
- Convolutional Neural Networks (CNNs) are effective at capturing spatial patterns and are less computationally intensive, making them suitable for text classification tasks like spam detection
- Long Short-Term Memory Networks (LSTMs) address the vanishing gradient problem in RNNs and are more scalable, offering improved performance for tasks requiring capturing long-term dependencies.



Future Scope

- Recurrent Neural Networks (RNNs) excel at capturing sequential patterns but may struggle with long-range dependencies and require significant computational resources.
- Convolutional Neural Networks (CNNs) are effective at capturing spatial patterns and are less computationally intensive, making them suitable for text classification tasks like spam detection.
- Long Short-Term Memory Networks (LSTMs) address the vanishing gradient problem in RNNs and are more scalable, offering improved performance for tasks requiring capturing long-term dependencies.



Reference

- “Deep Learning for Email Spam Detection: A Survey” by S. K. Pandey, et al. (2018)
- “Spam Detection in Social Media Using Deep Learning” by A. Kumar, et al. (2019)
- “A Survey on Deep Learning Techniques for Email Spam Detection” by R. Kaur, et al. (2020)
- “Spam Email Detection Using Deep Learning Techniques” by A. A. Tijjani, et al. (2021)

Thank you!