1. Design a NLP model on Sarcasm detection.

Electronic journalism powered with Social media has become one of the major sources of information consumption lately. Many media houses are using creative ways in order to tap into increasing views on posts. One of the ways is using sarcastic headlines as click baits. A model that is able to predict whether a piece of headline is sarcastic or not can be useful for media houses in order to analyse their quarterly earnings by strategy. Also, from a reader's perspective, search engines can utilise this information of sarcasm and depending on the reader's preference, recommend similar articles to them.

The goal is to build a ANN model to detect whether a sentence is sarcastic or not?

https://github.com/Kavitha-Kothandaraman/Sarcasm-Detection-NLP

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import tensorflow as tf

from tensorflow.keras.preprocessing.text import Tokenizer

from tensorflow.keras.preprocessing.sequence import pad_sequences

from tensorflow.keras.models import Sequential

from tensorflow.keras.layers import Embedding, LSTM, Dense


# Data preprocessing

# Load and preprocess the data (load, clean, tokenize, pad)

# Split the data into train, validation, and test sets


# Model architecture

model = Sequential()

model.add(Embedding(input_dim=vocab_size, output_dim=embedding_dim,
input_length=max_sequence_length))

model.add(LSTM(64))

model.add(Dense(1, activation='sigmoid'))


# Compile the model

model.compile(loss='binary_crossentropy', optimizer='adam', metrics=['accuracy'])


# Model training
```

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model.fit(train_sequences, train_labels, epochs=epochs, validation_data=(val_sequences, val_labels), batch_size=batch_size)


# Model evaluation

test_loss, test_accuracy = model.evaluate(test_sequences, test_labels)


# Make predictions on new data

predictions = model.predict(new_data_sequences)
```