

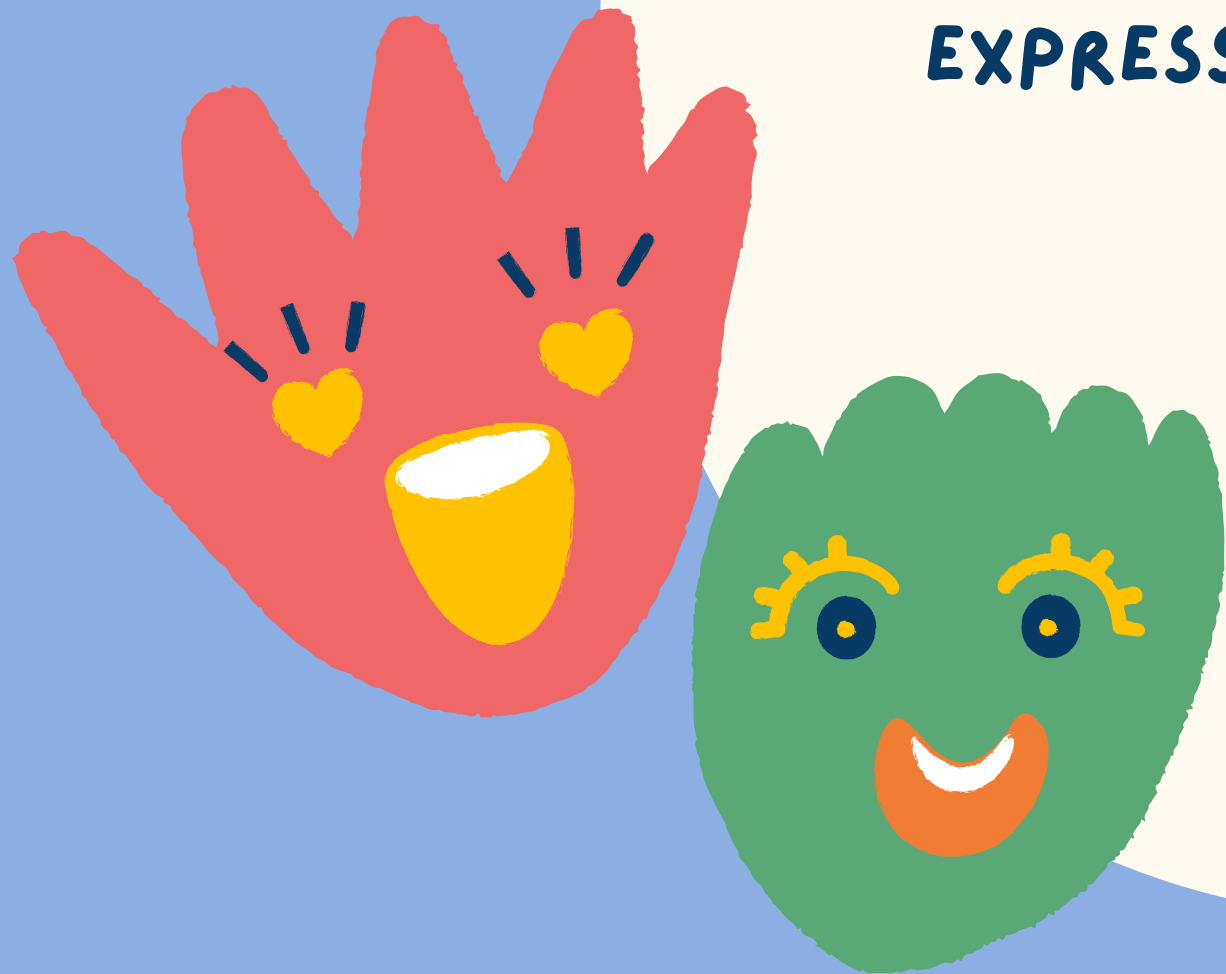
TEXT-BASED EMOTION DETECTION




A PRESENTATION BY: JOCEL ARCELONA

BUSINESS PROBLEM:

A SOCIAL MEDIA COMPANY WANTS TO IMPROVE USER
ENGAGEMENT ON THEIR PLATFORM BY BETTER
UNDERSTANDING THE EMOTIONS THEIR USERS ARE
EXPRESSING IN THEIR POSTS USING A TEXT BASED
RECOGNITION SYSTEM



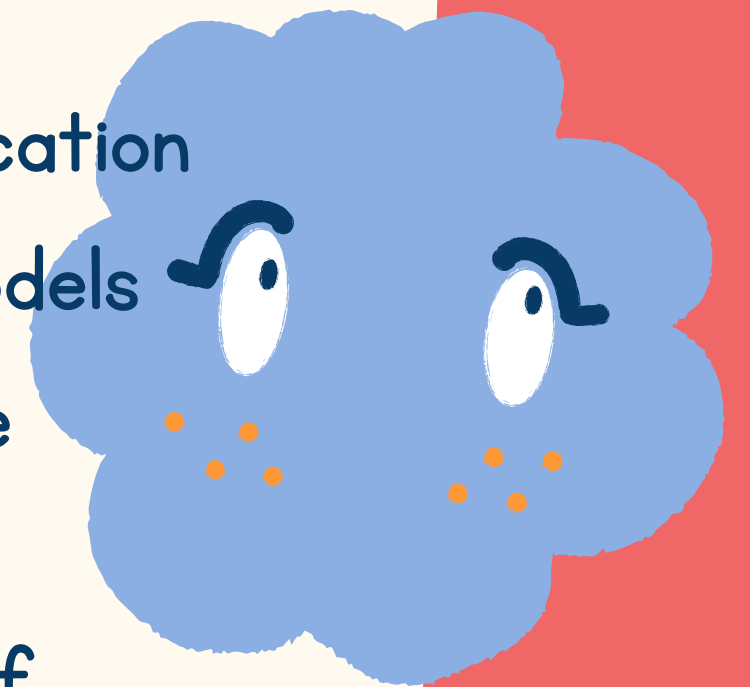
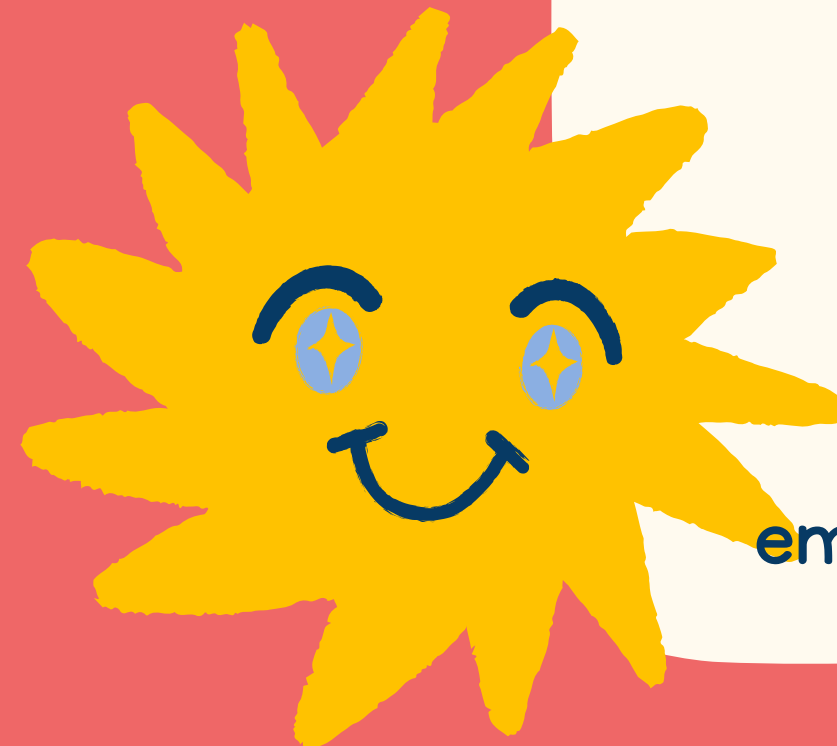
OBJECTIVES

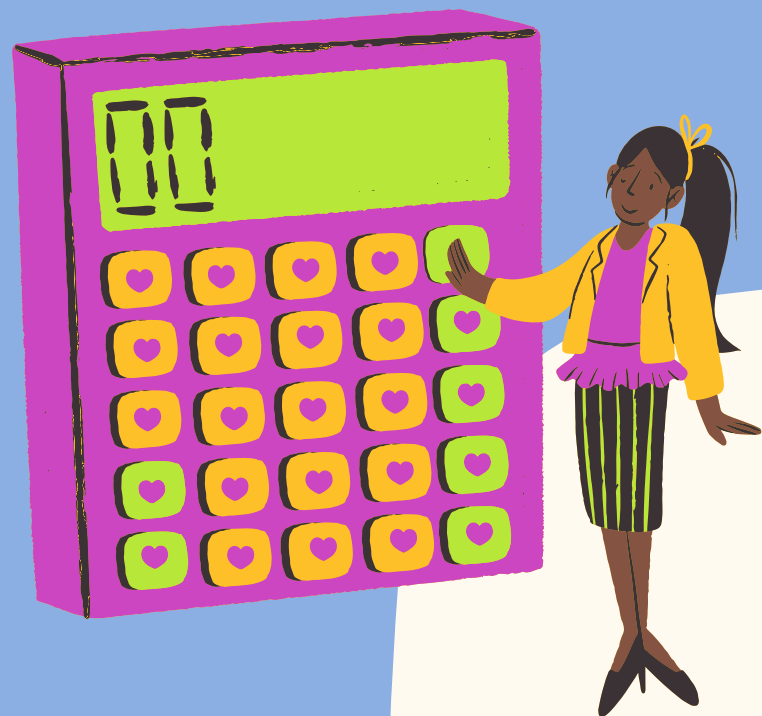


Clean, parse and analyze textual data from twitter to predict emotions using Natural Language Processing

Create and use multiple classification models to figure out which models produces the best F1 Score

Aim to lessen the amount of misclassification (misclassifying an emotion and failing to identify a certain emotion)





DATA SOURCE:

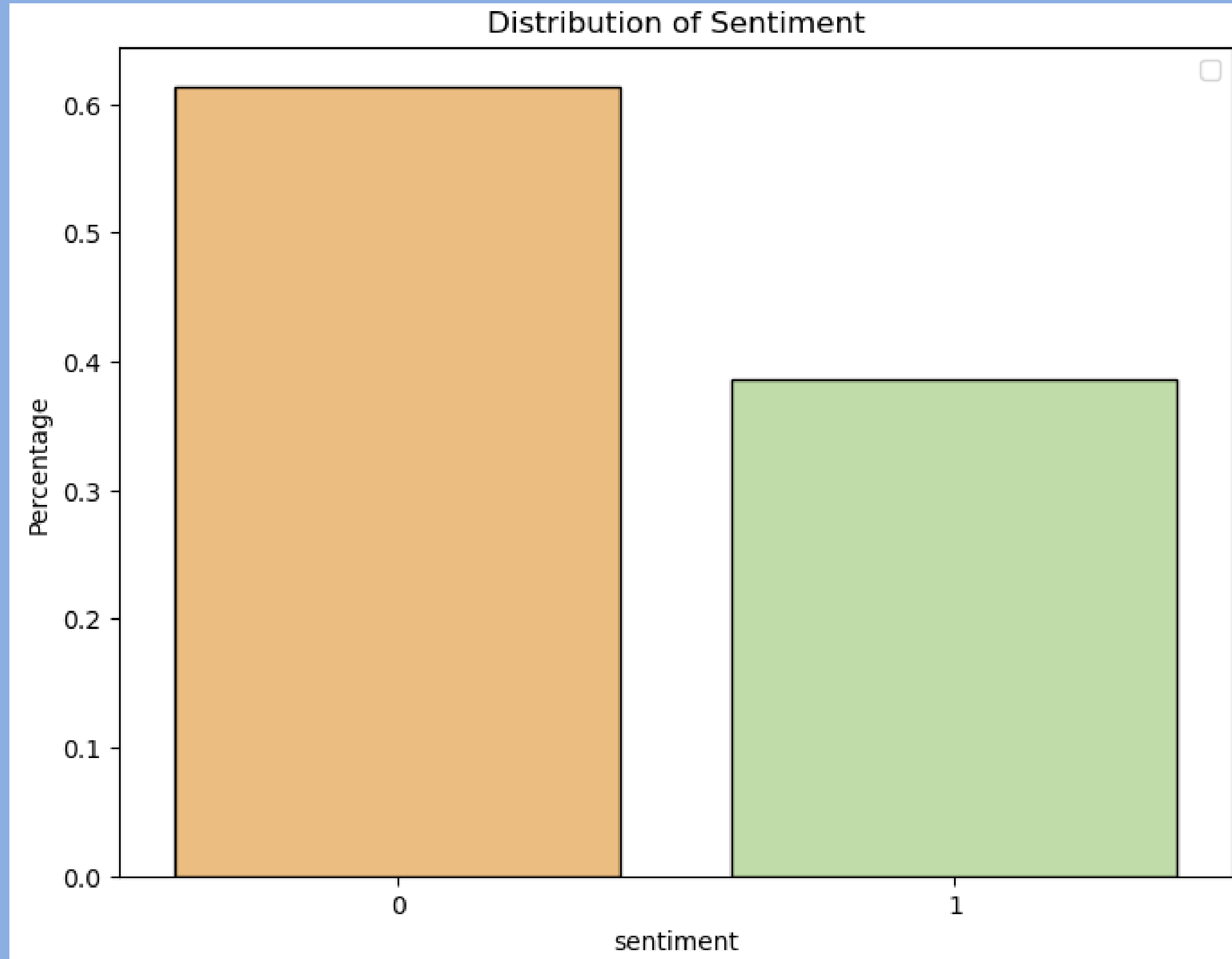


Emotion Detection from Text

Predict emotion from textual data : Multi-class text classification

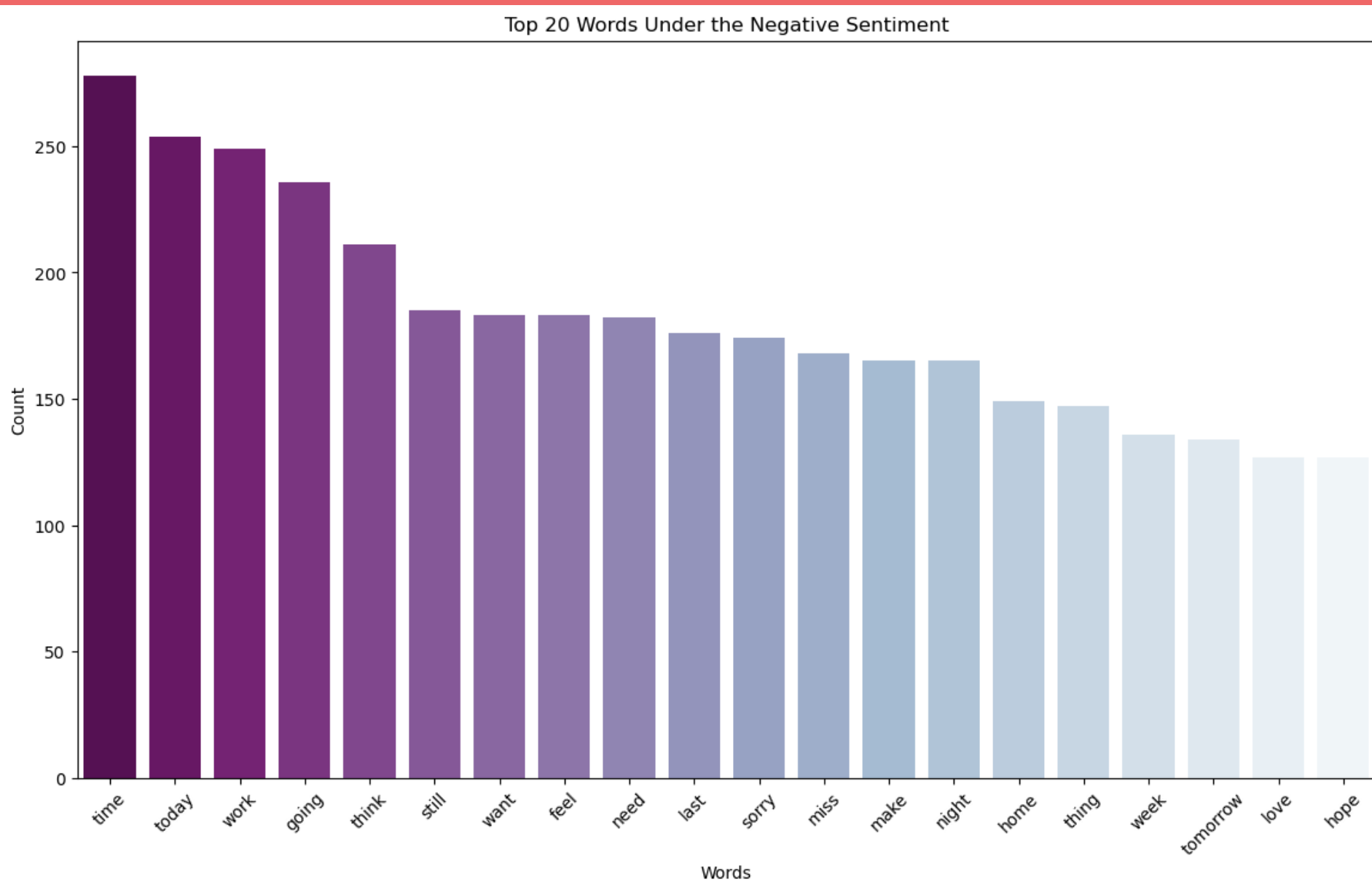
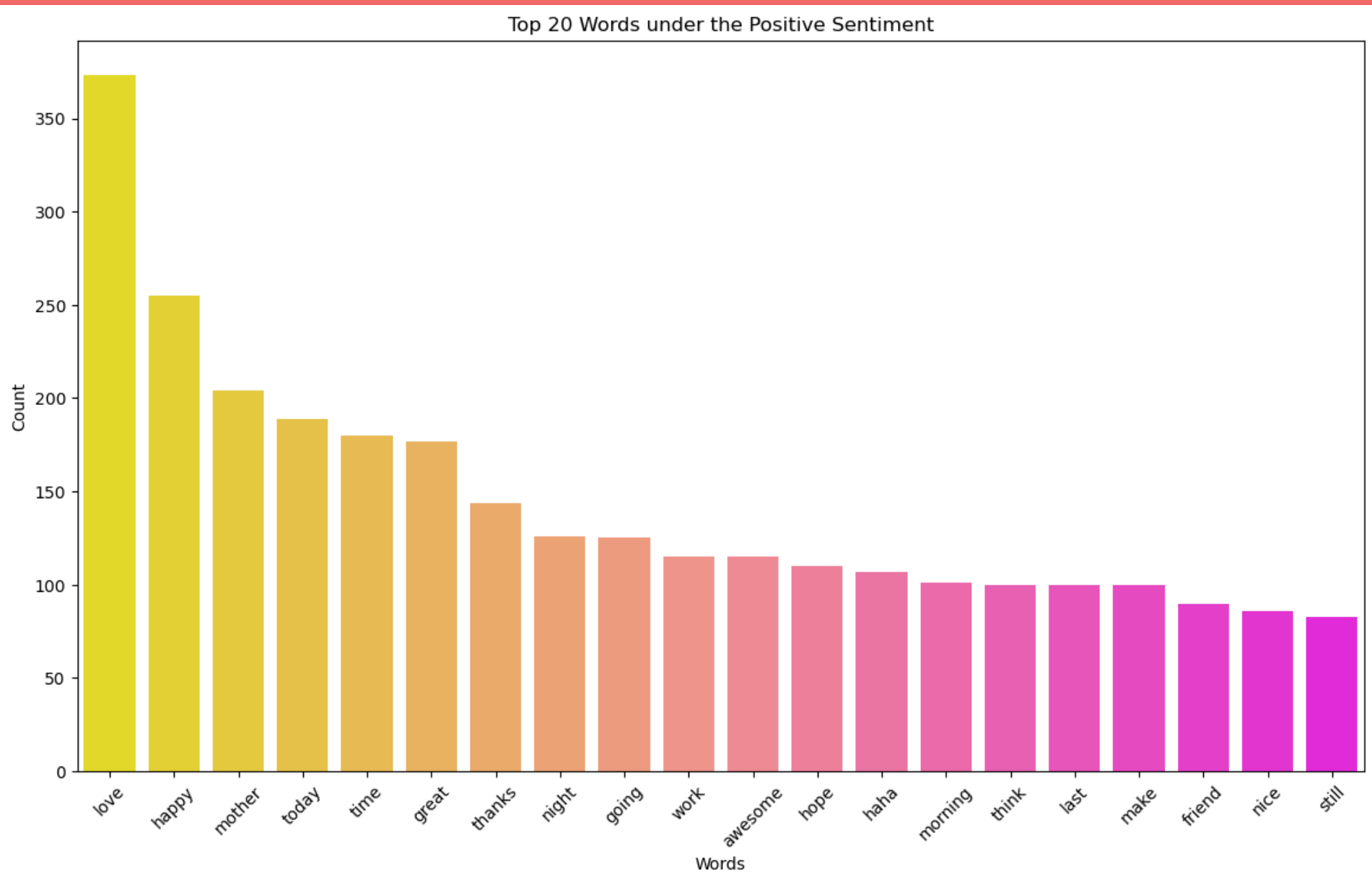
[k](https://www.kaggle.com) kaggle.com


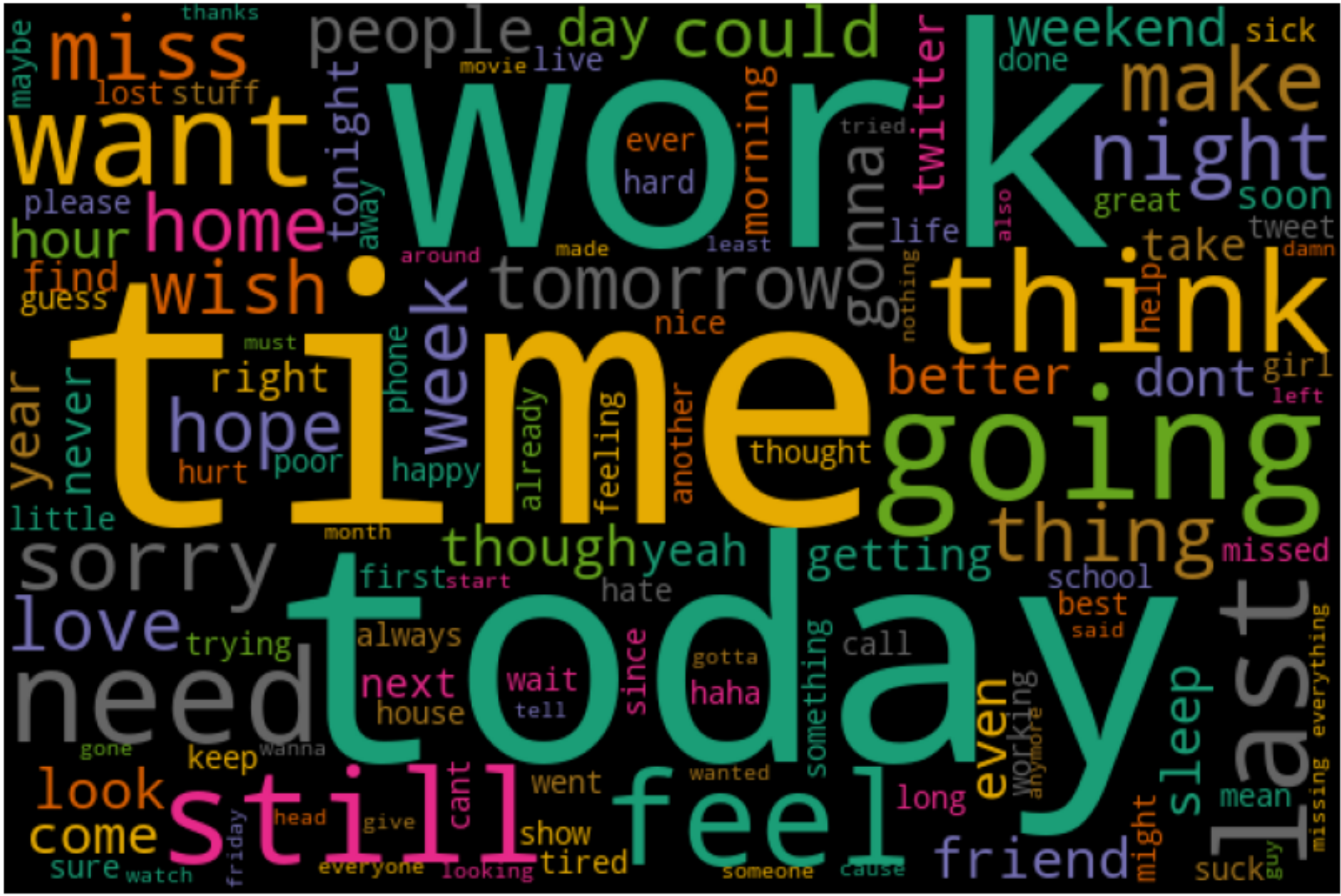




*THERE'S A CLASS
IMBALANCE BETWEEN THE
POSITIVE (1)
AND NEGATIVE (0) CLASS*

*CLASS 0: 60%
CLASS 1: 40%*



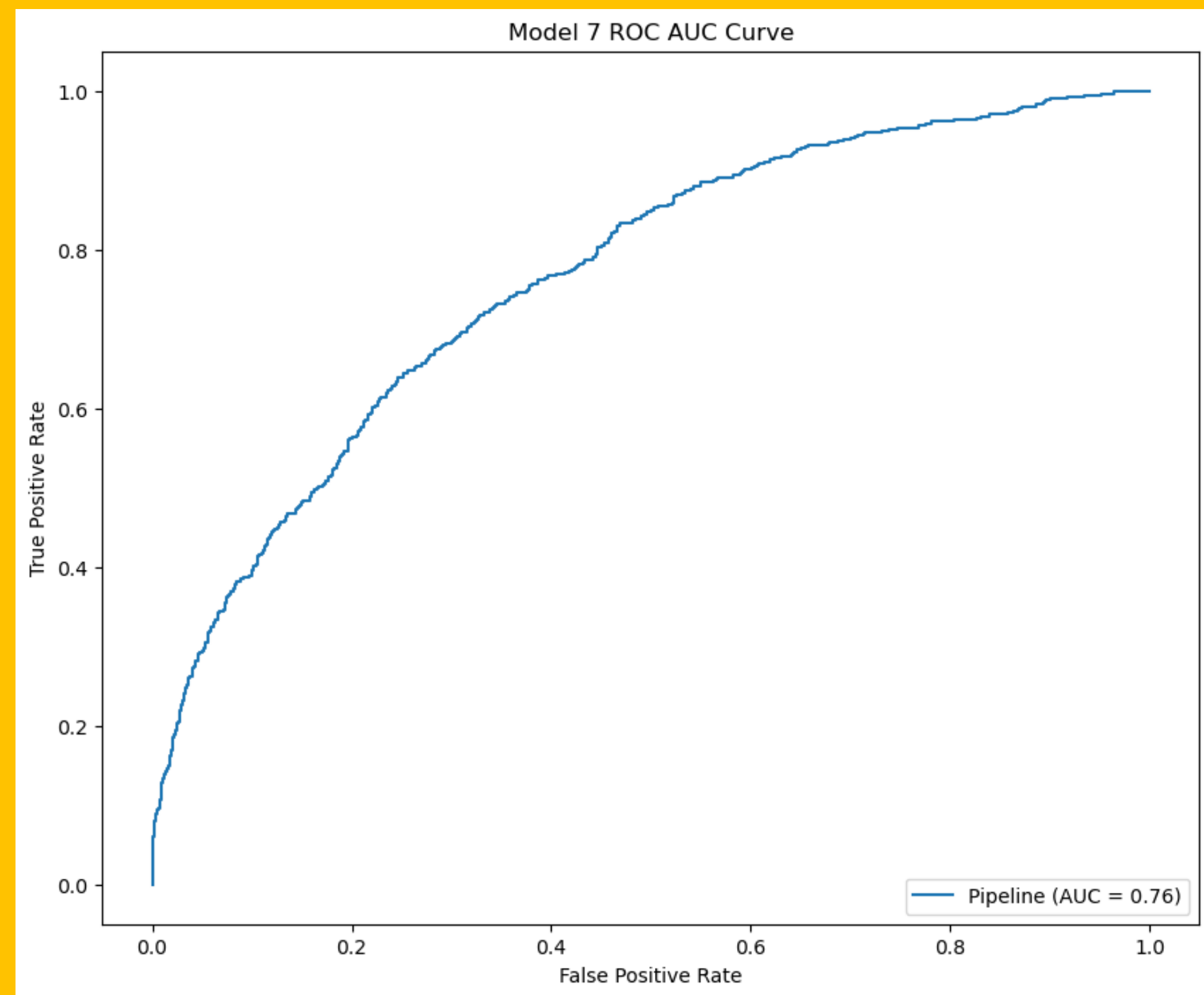
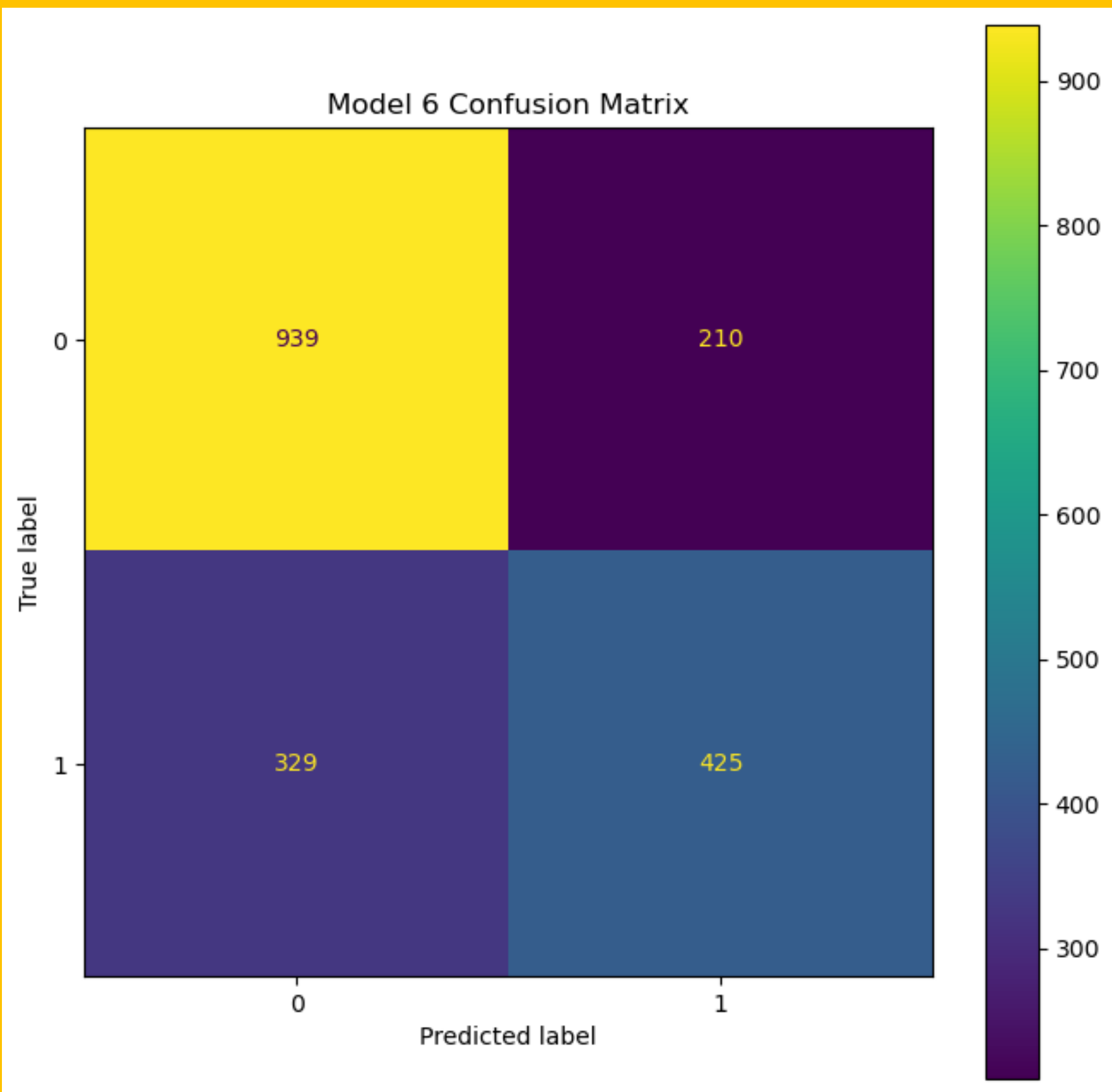
The logo for WordCloud, featuring the word "WORDCLOUD" in a white, rounded, sans-serif font, centered within a white, hand-drawn cloud shape on a solid red background.

BEST MODELS

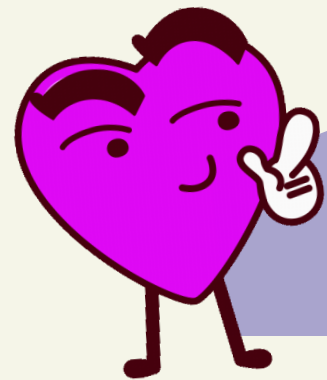


	PRECISION	RECALL	F1 SCORE
STACKED CLASSIFIER (MULTINOMIAL NB AND XGBOOST)	CLASS 0: 0.74 CLASS 1: 0.67	CLASS 0: 0.82 CLASS 1: 0.56	CLASS 0: 0.78 CLASS 1: 0.62
RANDOM FOREST	CLASS 0: 0.76 CLASS 1: 0.63	CLASS 0: 0.72 CLASS 1: 0.65	CLASS 0: 0.74 CLASS 1: 0.63
MULTIONOMIAL NAIVE BAYES	CLASS 0: 0.74 CLASS 1: 0.65	CLASS 0: 0.79 CLASS 1: 0.58	CLASS 0: 0.77 CLASS 1: 0.61

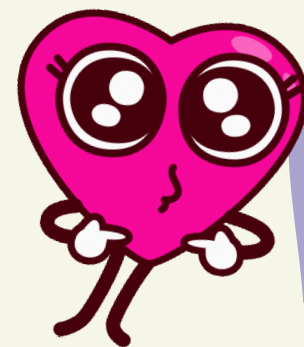




RECOMMENDATIONS

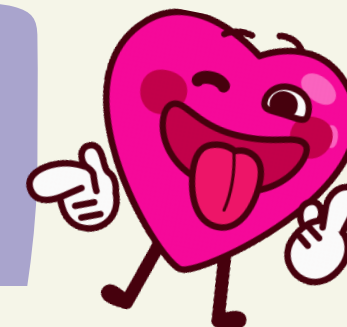


GATHER MORE PROPERLY CLASSIFIED DATA



WITH MORE PROPERLY CLASSIFIED TARGETS, WE CAN AIM TO LOWER BOTH FALSE NEGATIVES AND FALSE POSITIVES TO AVOID MISCLASSIFICATION

TRY USING BIGRAMS/TRIGRAMS TO CAPTURE MORE CONTEXTUAL INFORMATION THAN INDIVIDUAL WORDS





THANK YOU



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<https://github.com/JocelArcelona>

