

Sentiment Analysis



100k Retweets

50k Quote Tweets

800k Likes









SCOPE



Index

METHOD

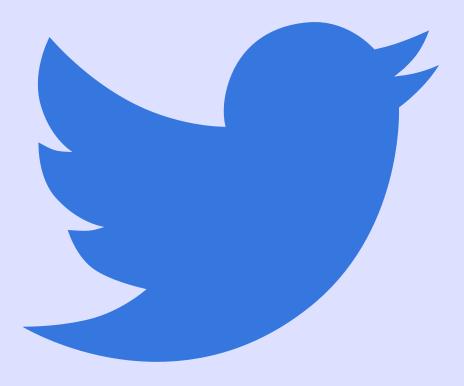


RESULTS



ETHIC AND
FURTHER DEVELOPMENT





SCOPE



The goal is to automatically identify and classify emotions and opinions expressed in written texts through the use of NLP.

What do you think about "Inside Out 2"?
I really like it!!!



I couldn't enjoy it because the people in theater were too loud :(



SCOPE: Applications



Example of applications:



Customer opinions analysis



Customer experience evaluation



Emotion detection incustomer service

METHOD: Dataset





80% Training: 1,280,000

20% Test: 320,000

The dataset used is
"Sentiment140" which contains 1.6
MIn tweets labeled with "Positive"
and "Negative". The following
text-cleaning operations were
performed on dataset:

- HTML encodings removing
- Special characters removing
- Tokenization
 - Padding
- Label encoding

METHOD: Dataset



"Positive" Word Cloud



"Negative" Word Cloud



METHOD: RNN



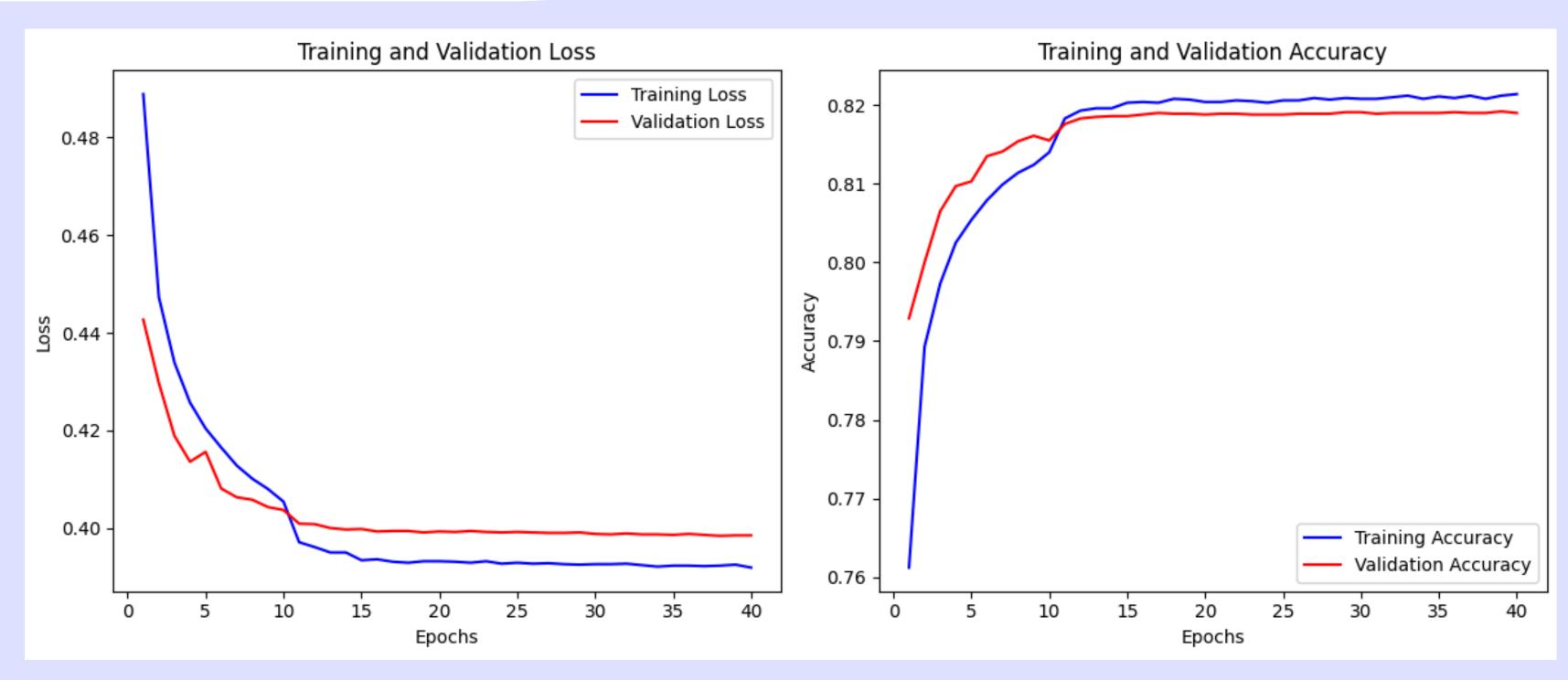
The network used is a Recurrent Neural Network (RNN) consisting of the following layers:



Epochs = 40; Starting LR = 1e-3; Batch Size = 1024; Optimizer = Adam; Loss = binary cross entropy

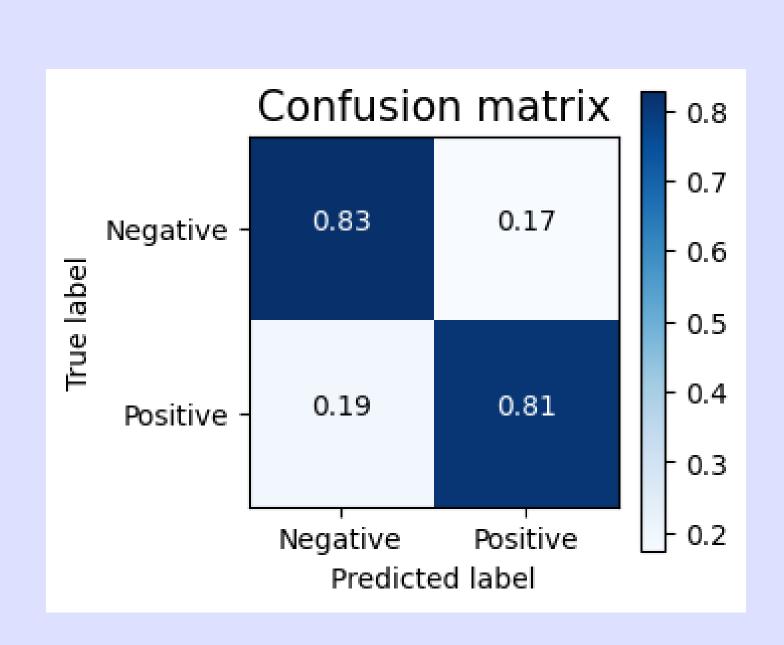
METHOD: Training results





RESULTS





	Precision	Recall	F1-Score	Support
Negative	0.82	0.83	0.82	160542
Positive	0.82	0.81	0.82	159458
Accuracy			0.82	320000
Macro avg	0.82	0.82	0.82	320000
Weighted avg	0.82	0.82	0.82	320000

ETHIC AND FURTHER DEVELOPMENT





ETHIC AND FURTHER DEVELOPMENT

Kate Crawford

Al systems are not just reflections of the data but are also shaped by the social and political contexts in which they are developed. This means that these systems can perpetuate and even exacerbate existing biases, leading to unfair and discriminatory outcomes.



Daniel J. Solove

The issue with privacy in the age of big data is not just about the misuse of information but also about the fact that personal data can be aggregated, analyzed, and used in ways that profoundly impact individual lives without their knowledge or consent.

ETHIC AND FURTHER DEVELOPMENT





Extend to other languages



Add more emotions



Add speech-to-text convertion



Claudia Castellano, Saverio Dell'Aversana

@CC, @SDA



Thanks for the attention <3



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Paolo Maresca @paolomaresca

<u>Posta la tua risposta</u>