Articles Sentiment Classifier

Author : Nathan Ostrowski, @nostrowski

Description :

The following notebook, when evaluated, will read through the cleaned text of a given article, split that text into individual sentences, run a Sentiment Classifier on each of those sentences, find the mean of each Positive, Neutral, and Negative Sentiment value, then create an Association with each of those mean Sentiment values. The notebook will then append that mean Sentiment Association to a List of mean Sentiment Associations which is itself a value whose key is the article's date in a broader Association. Finally, the notebook will convert the broader Association to a RawJSON and export it to "sentiments.json".

To run this notebook, simply go to "Evaluation > Evaluate Notebook"

NOTE: This Classifier is built to work with CNN links as it evaluates the date of an article from its original link. To use other news sources, adjust the articleDate variable accordingly.

Executable Code

```
cleanedArticleTexts = Import["cleanedArticleTexts.mx"];
articleLinks = Import["articleLinksV2.mx"];

sentimentsAssociations = Association[];
```

```
For[i = 0, i < Length[cleanedArticleTexts], i++,
  If[StringContainsQ[ToString[articleLinks[[i]]], "2020"],
   articleDate = StringTake[articleLinks[[i]], {21, 30}] ;
   articleSentences = TextSentences[cleanedArticleTexts[[i]]] ;
   totalArticleSentiments =
    Classify["Sentiment", articleSentences, "Probabilities"] ;
   positives = "Positive" /. totalArticleSentiments ;
   avgPositive = Mean[positives] ;
   neutrals = "Neutral" /. totalArticleSentiments;
   avgNeutral = Mean[neutrals] ;
   negatives = "Negative" /. totalArticleSentiments;
   avgNegative = Mean[negatives] ;
   thisArticle = <|"Positive" → avgPositive,
     "Neutral" → avgNeutral, "Negative" → avgNegative|> ;

   If[KeyExistsQ[sentimentsAssociations, articleDate],
    currentDaySentiments = sentimentsAssociations[articleDate] ;
    AppendTo[currentDaySentiments, thisArticle] ;
    AssociateTo[sentimentsAssociations, articleDate → currentDaySentiments] ;
    ,
    currentDaySentiments = {};
    AppendTo[currentDaySentiments, thisArticle] ;
    AssociateTo[sentimentsAssociations, articleDate → currentDaySentiments] ;
   ]
   , Continue[]]
 ];
Print[sentimentsAssociations]

Export["sentiments.json", sentimentsAssociations, "RawJSON"]
```