HASHTAG RECOMMENDATION SYSTEM

CREATING EFFICIENT AND RESOURCE-CONSCIOUS IMAGE-BASED HASHTAG RECOMMENDATIONS WITH THE HELP OF MACHINE LEARNING

Presented By

PULOK SAHA

REG. NO : 2019331021

SOURAV BHOWMIK JOY

REG. NO : 2019331037

Table of Contents

- Introduction

- Related Work

- Supervised Machine Learning

- Unsupervised Machine Learning

- Performance Analysis
- Showing Result

Introduction

- Hashtags are a popular approach for labeling images on social media platform.

- As users share millions of images daily on social media, the need for efficient hashtag recommendations becomes important.
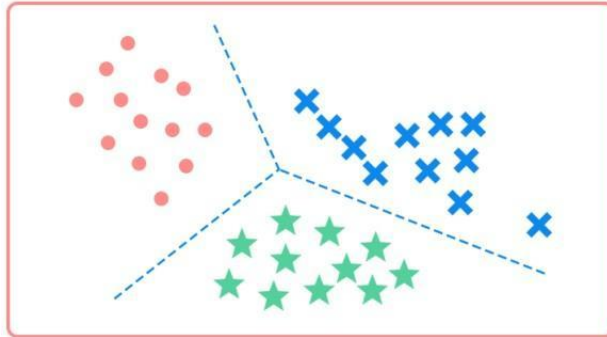
Related Work

- Supervised Machine Learning Algorithms

- Unsupervised Machine Learning Algorithms

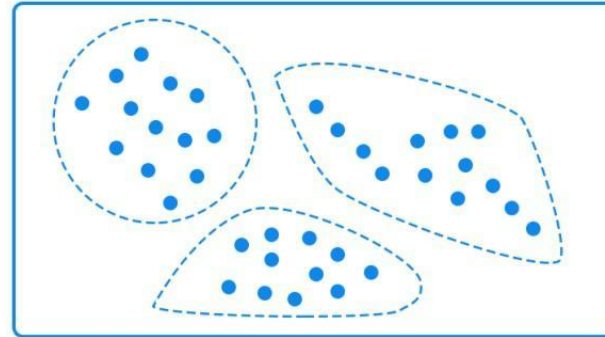- Zero-Shot Classification

- Harrison Dataset

Supervised vs. Unsupervised Learning

Classification

Supervised learning

Clustering

Unsupervised learning

Supervised Machine Learning vs Unsupervised Machine Learning

Supervised Machine Learning

- input samples (images in this case) are paired with their corresponding output labels (hashtags).

- The model learns the relationships between the input features (image characteristics) and the output labels (hashtags) during the training process.

- Once the supervised model is trained, it can predict hashtags for new, unseen images.

- Feature Extraction: extract meaningful features from images without the need for labeled training data

- Clustering :By grouping similar images together based on extracted features, unsupervised learning helps identify patterns and structures within the dataset.

Unsupervised Machine Learning Algorithms

Performance Analysis

●Confusion Matrix:

A confusion matrix breaks down the predicted and actual classifications into different categories.

●The confusion matrix consists of four components:

True Positive (TP): Instances where the model correctly predicts a relevant hashtag.

True Negative (TN): Instances where the model correctly predicts a non-relevant hashtag.

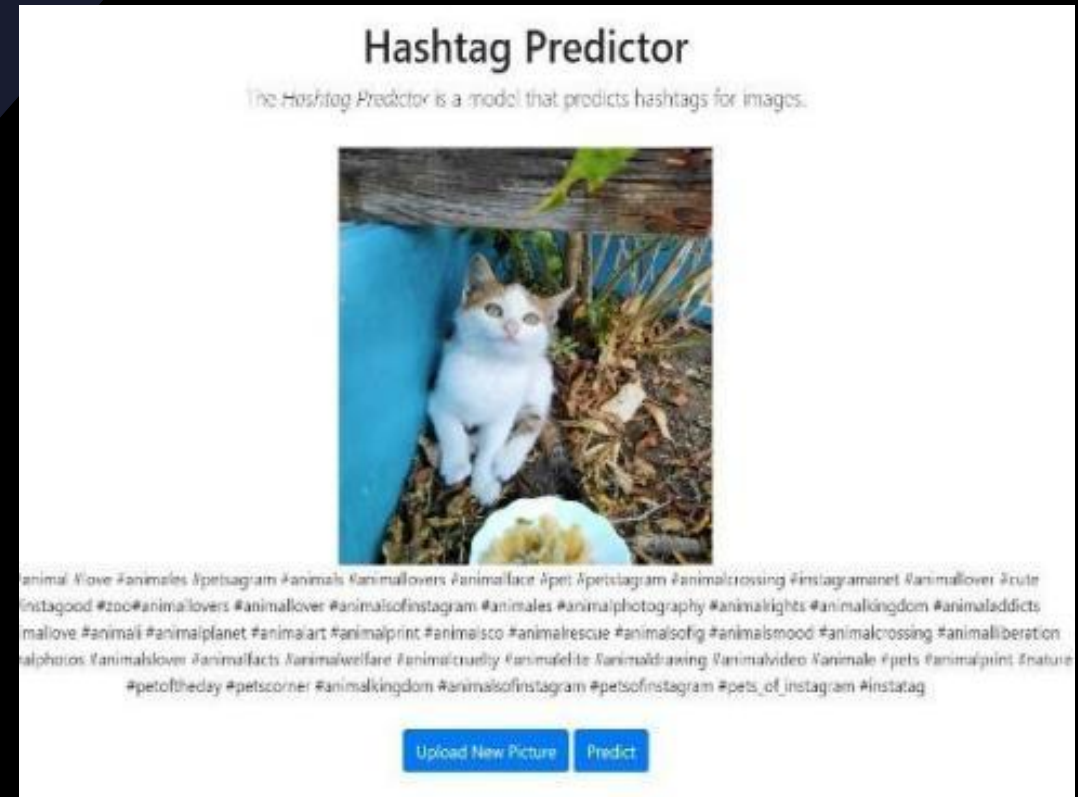False Positive (FP):Instances where the model incorrectly predicts a relevant hashtag

False Negative (FN):Instances where the model incorrectly predicts a non-relevant hashtag

Confusion Matrix

Result Showing

- Following is a demo website deployed in order to show the prediction results from an image

Study Limitations

- Apart from all the methodologies included in this study, it still remains an interest for future investigations.

- Further endeavors might overcome some of the underlying challangesof this study.

Thank You