verified

Dr. R. Manikandan

T. Mani sai Lokesh
19EEE4/05
Artifical Intelligence & Data Science
Guide : R. Manikandan

Title : optimizing social media influence Prediction accuracy for marketing strategy in comparision of Random Forest and support vector Machine.

Paragraph 1:

Defination:

* The Machine learning techniques to forecast Potential impact or user content may social media Platform.

* To Provide insights a user target audience, decision Making for Marketing Purpose.

* They Provide Marketers insights, tailor Marketing stroategies for optimal reach impact dymamic Landscape of social Media.

Importance:

1) Business and Marketing : It servers a Powerful Platforms for business to reach and target audience. It's cost effective way to Promote Product & services.

2) Awaoness and Activism : Plays a crucial role raising awarness about issues, Promoting activism.

3) Best Global connectivity : Breakdown barries connectivly People diverse backgrounds clusters globalized digital community.

Applications:

* the network connected with family, friends & collegues
* To share information content, videos, pictures & creative expression for brand awarness.
* In Real time news & information dissemination global events and trends.
* customer support through social media channels feedback and resolve issues

Paragraph 2:

Number of Articales:

* sciene direct - 501
* Google scholar - 1355

Most cited Articles:

[1] Li, Jing xuan, et al. "social network user influence sense making and dynamic prediction". Expert system with applications 41.11 (2014): 5115-5124.

[2] Alizadeh, Meysam, et al. "content-based features predict social media influence operations." science advances 6.30 (2020): eabb 5824.

[3] Al Marouf, Hasan (2020): comparitive Analysis algorithium for computational personality Prediction for social media. IEEE Transctions on computational social systems, 7(3) 587-599.

[4] Yu, sheng and subhash tak. "A survey of Prediction using social Media". arxiv Prefrint arxiv: 1203.1647 (2012).

Best study:

* Illustrating the latent capacity of Machine learning techniques in anticipation of social media in similar setting.
* Business Promotion Powerful for marketing strategy and advertising are high income.
*

Paragraph 3:

Existing Algorithium:

* Existing Algorithium the accuray is less because of the comparision of short Period of data.
* The machine trained used existing can Predict the social media influence in marketing strategy.

Aim of the Algorithium:

* utilizing the machine learning Algorithium and social media influence analysis to develop robust models and Predict influence of users on social media content.
* Enhancing Market strategies Provide insights, ultimately decision making Process for business and organisations.

Materials And Methods:

Paragraph 1:

study setting: SIMATS school of Engineering.

No of Groups: 2

Group 1: Random Forest

Group 2: Support vector Machine

Sample size: 5

Dataset: social media influence.

Paragraph 2:

Data sample Preparation

* Group 1: Random Forest

* Information: Dataset

* Apply Random Forest Algorithium.

* calculate total no of users see

* calculate taccuracy of social Media influence

Paragraph 3:

* Data sample Preparation

    Group 2: Support vector Machine

* Information: Dataset

* Apply Artifical Neural Network.

* calculate total no of People see in Post
* calculate accuray of social media influence.

Paragraph 4:

Testing setup   * Google colab
                 * in Intel 8th Gen
                 * 8GB RAM
                 * windows 10 OS

Paragraph 3

statistical Analysis:

* utilizing version 26.0 IBM SPSS software,
  computation were Performed

* Provided values are -> Mean
                         -> standard deviation
                         -> standard Error Mean.

* Independent variable: index, Age, Education,
                        Field, settlement, QoL,
                        New vs old Users, IAT

* Dependent variable: social Media time in hours

* Analysis Done : Yes

* Result: Random Forest has better Prediction
          than support vector Machine.

* Notably independent variable of interest is rough score.
* Dependent variable of Research size and recorded data utilized of T Test outcomes.

Limitations:

* In order to maximize the fetch time and increase the accuracy.
* Bulk Data Analysis is complicated.

Future scope:

* Accuracy increased using Random Forest Algorithium

Testing Procedure:

* Preparing the Dataset
* Train 70% of Dataset
* Test 30% of Dataset.
* create Embedded model using Random Forest Algorithium and support vector Machine

Results And Discussions:

* Improving Accuracy in Prediction of social media influence Analysis in Marketing strategies by minimizing false datasets.
* using Random Forest Algorithium & support vector Machine Algorithium.

* using Random Forest Algorithium and support vector Machine Algorithium.

Paragraph 1:

In this study we defined that Random Forest Algorithium has better Prediction than support vector Machine Algorithium.

Paragraph 2:

Data Collection:

* Data is trained
* saved Embeded Model
* Input sample Dataset.

Age : Above 28

Education : Arts, Psychology [12th grade]

Field : Arts

settlement: Rural

conclusion:

* The analysis of Random forest and support vector Machine fore casting social media's influence on marketing strategy, both techniaves enhance accuroey.

* Model enhances Predictive capabilities, empowering marketers with more Precise insights

Group Statistics

	ALGORITHM	N	Mean	Std. Deviation	Std. Error Mean
ACCURACY	RF	20	93.90	1.744	.390
	SVM	20	58.65	2.739	.612

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ACCURACY	Equal variances assumed	7.111	.011	48.546	38	.036	35.250	.726	33.780	36.720
	Equal variances not assumed			48.546	32.232	.036	35.250	.726	33.771	36.729

Simple Bar Mean of ACCURACY by ALGORITHM

Error Bars: 95% CI
Error Bars: +/- 2 SD