

Hint Paper: 2

T. Mani sai Lokesh
192224105

Artificial Intelligence & Data science
Guide: R. Manikandan.

Title : Refining social media influence Prediction a comparative Evaluation of Random Forest and Ada Boost for improved Accuracy in Marketing strategy.

Paragraph 1:

Defination:

- * The machine learning techniques to forecast the Potential impact or user content may have social media Platform.
- * Analysis of Engagement, Interactions these Predictive models.
- * To Provide insights a user content audience, aiding in decision making for marketing purpose.
- * The goal Provide marketers insights, tailor marketing strategies for optimal reach impact dynamic landscape of social media.

Importance:

- 1) Business and marketing: It servers a Powerful Platforms for business to reach and target audience. It is cost effective way to Promote Product & services.
- 2) Awareness and Activism: plays a crucial role raising awareness about issues, Promoting activism.
- 3) Global connectivity: Breakdown barriers connectivity People diverse backgrounds clusters globalized digital community.

Applications:

- * The Professional network connected with family, friends & colleagues
- * To share information content, articles, videos and creative expression for brand awareness.
- * Real time news & information dissemination. Global events & trends.
- * customer support through social media channels feedback & resolve issues.

Paragraph 2:-

Number of Articles:

* sciencedirect - 501

* IEEE - 807

* Google scholar - 1245

Most cited Articles:-

- [1] Li, Jingxuan, 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): eabb5824.
- [3] Al Marouf, Hasan (2020): comparative Analysis feature selection algorithm for computational Personality Prediction for social media. IEEE Transactions on computational social systems, 7(3) 587-599.

[4] Yu, sheng, and subhash kat. "A survey of Prediction using social media." arxiv Preprint 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.
- * They increased demand & supply occurrences in future.

Paragraph 3:

Existing Algorithm:

- * Existing Algorithm, the accuracy is less because of the comparison of short period of data.
- * The Machine trained used the existing can Predict the social media influence in marketing strategy

Aim of the Algorithm:

utilizing the machine learning Algorithm 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 organizations.

Materials And Methods:

Paragraph 1:

study setting: SIMATS school of Engineering.

No of Groups: 2

Group 1: Random Forest

Group 2: ADA BOOST

sample size: 5

Dataset: Predicting accuracy occurrences of social media influences.

Power: 80%.

Paragraph 2:

Data Sample Preparation

Group 1: Random Forest

* Information: Dataset

* Apply Random Forest Algorithm.

* calculate total no of users see in Post

* calculate accuracy of social media influence Prediction.

Paragraph 3:

* Data sample Preparation

Group 2: ADA BOOST

* Information: Dataset

* Apply ^{Logits} Random Regression Algorithm.
ADA Boost

- * calculate total no of people see in Post
- * calculate accuracy of social media influence Prediction

Paragraph 4:-

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

Paragraph 3:

statistical Analysis:

- * Utilizing version 26.0 of IBM SPSS software, computation were performed
- * Provided values are
 - Mean
 - standard deviation
 - standard Error Mean
- * Independent variable: inden, Age, Education, Field, settlement, New vs old Users, QOL, IAT.
- * Dependent variable: social media time in hours
- * Analysis Done: yes
- * Result: Random Forest has better Prediction than the ADA Boost.

- * 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 Algorithm

Testing Procedure:

- * Preparing the Dataset
- * Train 70 % of Dataset
- * Test 30 % of Dataset
- * create Embedded model using Random Forest Algorithm and ADA BOOST.

Results and Discussions:

- * Improving Accuracy in Prediction of social media influence analysis in marketing strategies by minimizing false datasets.

- * using Random Forest Algorithm and ADA BOOST, Algorithm

Paragraph 1:

In this study we defined that Random Forest Algorithm has better Prediction than ADA BOOST

Paragraph 2:

Data collection:

- * Data is trained
- * saved Embedded Model
- * Input sample Dataset

Age : Above 28

Education : Bachelor Degree

Field : Engineering

settlement : urban.

conclusion:

- * The analysis of Random Forest and ADA Boost forecasting social media's influence on marketing strategy, both techniques.
- * Models enhances Predictive capabilities, empowering strategies with more precise insights.

Group Statistics

	ALGORITHM	N	Mean	Std. Deviation	Std. Error Mean
ACCURACY	RF	20	93.90	1.744	.390
	ADB	20	76.65	3.543	.792

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
ACCURACY	Equal variances assumed	4.547	.040	19.533	38	.049	17.250	.883	15.462 19.038
	Equal variances not assumed			19.533	27.697	.049	17.250	.883	15.440 19.060

Simple Bar Mean of ACCURACY by ALGORITHM

