

**A GBDT BASED SENTIMENT ANALYSIS AND
CLASSIFICATION OF TWITTER INFORMATION
USING OPTIMIZATION ALGORITHM**

A THESIS

Submitted by

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in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY



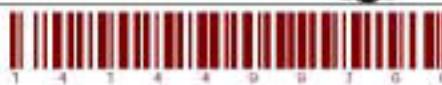
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CERTIFICATE

This is to certify that all corrections and suggestions pointed out by the Indian /Foreign Examiner(s) are incorporated in the Thesis titled " A GBDT Based Sentiment Analysis and Classification of Twitter Information using Optimization Algorithm. " submitted by Mr. Neelakandan.S

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Proceedings of the Ph.D. Viva-Voce Examination of Mr.Neelakandan.S held at 11:00 AM on 07.05.2021 in Online Mode

The Ph.D. Viva-Voce Examination of Mr.Neelakandan.S (Reg. No. 1414499760) on his/her Ph.D. Thesis Entitled " A GBDT Based Sentiment Analysis and Classification of Twitter Information using Optimization Algorithm." was conducted on **07.05.2021** at 11:00 AM in the Online Mode.

The following Members of the Oral Examination Board were present:

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| 1. Dr. S.Janakiraman,Assistant Professor,Department of Banking Technology School of Management,Pondicherry University,Kalapet Pondicherry - 605 014 | Indian Examiner |
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The research scholar, Mr. Neelakandan.S presented the salient features of his/her Ph.D. work. This was followed by questions from the board members. The questions raised by the Foreign and Indian Examiners were also put to the scholar. The scholar answered the questions to the full satisfaction of the board members.

The corrections suggested by the Indian/Foreign examiner have been carried out and incorporated in the Thesis before the Oral examination.

Based on the scholars research work, his/her presentation and also the clarifications and answers by the scholar to the questions, the board recommends that Mr.Neelakandan.S be awarded Ph.D. degree in the **Faculty of Information and Communication Engineering**.

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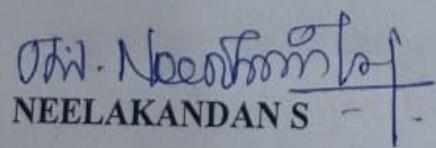
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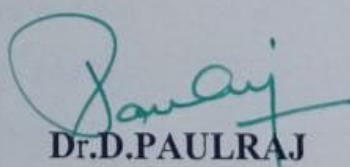
BONAFIDE CERTIFICATE

The research work embodied in the present Thesis entitled "**A GBDT BASED SENTIMENT ANALYSIS AND CLASSIFICATION OF TWITTER INFORMATION USING OPTIMIZATION ALGORITHM**" has been carried out in the Department of Computer Science and Engineering, R.M.D. Engineering College, Kavaraipettai. The work reported herein is original and does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion or to any other scholar.

I understand the University's policy on plagiarism and declare that the thesis and publications are my own work, except where specifically acknowledged and has not been copied from other sources or been previously submitted for award or assessment.


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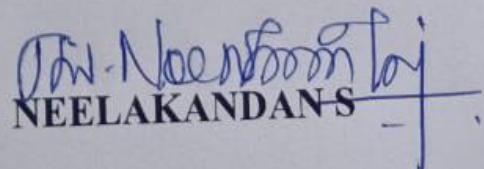
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LIST OF SYMBOLS AND ABBREVIATION

API	-	Application Programming Interface
ANN	-	Artificial Neural Network
BVA	-	Block Based Visual Analysis
CFS	-	Candidate Feature Selection
CCA	-	Canonical Correlation Analysis
CNN	-	Convolutional Neural Network
CISER	-	Credibility, Interest, And Sentiment Enhanced Recommendation
CRM	-	Customer Relationship Management
DT	-	Decision Tree
DL	-	Deep Learning
DLMNN	-	Deep Learning Modified Neural Network
DSA	-	Dual Sentiment Analysis
DBN	-	Dynamic Bayesian Network
EHO	-	Elephant Herd Optimization
ET	-	Extend-Type
FFNN	-	Feed Forward Neural Network
GFS	-	Google File System
GBDT	-	Gradient Boost Decision Tree
GRN	-	Graph Regression Networks
HDFS	-	Hadoop Distributed File System
HLDA	-	Hierarchical Latent Dirichlet Allocation
I-EHO	-	Improved Elephant Herd Optimization
IDF	-	Inverse Document Frequency values
KFCV	-	K – Fold Cross Validation
KLP	-	Knowledge Learning Process
LDA	-	Linear Discriminant Analysis

LSTMs	-	Long Term Short-Term Memory
ML	-	Machine Learning
NLP	-	Natural Language Processing
NN	-	Neural Network
POS	-	Part Of Speech
PSO	-	Particle Swarm Optimization
PSO	-	Particle Swarm Optimization
PCA	-	Principal Component Analysis
RNN	-	Retinal Neural Networks
SA	-	Sentiment Analysis
SC	-	Sentiment Classification
SDAFI	-	Social Data Analysis And Feedback Information
SDA	-	Spatial Data Analysis
SSTL	-	Stanford Sense Tree Library
SML	-	Supervised Machine Learning
SVM	-	Support Vector Machine
TF	-	Term Frequency
TF-IDF	-	Term Frequency-Inverse Document Frequency
WOA	-	Whale Optimization Algorithm