"ANOMALY DETECTION IN NETWORK USING DECISION TREE AND SUPPORT VECTOR MACHINE"

A Dissertation submitted in partial fulfillment of the requirements for the award of degree of

MASTER OF COMPUTER APPLICATIONS

of

Visvesvaraya Technological University

Submitted by:

MOHAMMAD RAJU ALAM

(1AM15MCA10)

Under the guidance of

Mrs. PRAMILA MOHANTY

AMC ENGINEERING COLLEGE

Department of Master of Computer Applications

18th KM, Bannerghatta Road, Bengaluru-560083.

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Assistant Professor, Dept. of MCA,
AMC Engineering College,
Bengaluru– 83

EXTERNAL GUIDE

Mr. Prankur Joshi
Data Scientist,
R.T.S Technology Pvt. Ltd,
Bengaluru-37

Department of Master of Computer Applications
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18th KM, Bannerghatta Road, Bengaluru-560083.

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18thKM, Bannerghatta Road, Bengaluru-560083.

Academic Year 2017-2018

CERTIFICATE

This is to certify that Mr. MOHAMMAD RAJU ALAM (1AM15MCA10) has completed his final semester project work entitled "ANOMALY DETECTION IN NETWORK USING DECISION TREE AND VECTOR MACHINE" as a partial fulfillment for the award of Master of Computer Applications degree, during the academic year 2017-2018 under our joint supervision.

Signature of External Guide
Mr. Prankur Joshi
Data scientist
R.T.S Technology Pvt.Ltd
Bengaluru-37

Signature of Internal Guide
Mrs. Pramila Mohanty
Associate Professor, Dept.of MCA
AMC Engineering College,
Bengaluru-83

Signature of Head of Department
Prof. A.C.M.V. Srinivas,
Head, Dept.of.MCA,
AMC Engineering College,
Bengaluru-83

Signature of Principal
Dr. T.N.Sreenivasa
Principal,
AMC Engineering College,
Bengaluru-83

PRINCIPAL
AMC ENGINEERING COLLEGE
BANGALORE-560 083

External Examiner

Date:

Internal Examiner

Date:

Real Time Signals Technologies
CIN: U72200KA2015PTC0843400

CERTIFICATE

We hereby confirm that Mr. Mohammad Raju Alam of your college AMC Engineering College, with Roll Number **1AM15MCA10**, has successfully completed the Internship with Project on Data Analysis at Real Time Signals Technologies Pvt. Ltd. From **January 2018 to May 2018**.

The Project Program includes Project on Anomaly detection in Network using Decision Tree and Support Vector Machine on Data Analysis under the guidance of Mr. **Prankur Joshi**, Project Guide, Real Time Signals Technologies Pvt. Ltd, Bangalore 560037

Kind Regards,
Project Manager

REAL TIME SIGNALS TECHNOLOGIES PVT.LTD
Krishna Grand, Over Marthahalli Bridge, Bengaluru, Karnataka 560037
Ph: 080-42008777, 7206392937, Email
info@realtimesig.comWebsite www.realtimesig.com

DECLARATION

I MOHAMMAD RAJU ALAM student of VI semester MCA, AMC Engineering College,

bearing USN 1AM15MCA10 hereby declare that the project entitle "**ANOMALY DETECTION IN NETWORK USING DECISION TREE AND VECTOR MACHINE**" has been carried out by me under the supervision of Internal Guide Mrs. **Pramila Mohanty**, Associate Professor, AMC Engineering College, and External Guide Mr. **Prankur Joshi**, Data Scientist, RTS Technology Pvt. Ltd and submitted in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications by the Visvesvaraya Technological University, Belgavi during the academic year 2017-2018. This report has not been submitted to any other Organization / University for any award of degree or certificate.

Name : Mohammad Raju Alam

Signature: MD Raju Alam

ACKNOWLEDGEMENT

First I thank God Almighty for helping me throughout this project and strengthening me to complete this work at my best and successfully. I would like to dedicate this work to my parents, my brother and my sister for their constant support and encouragement during the course of this work.

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ABSTRACT

An anomaly is abnormal activity from normal unity. Anomaly detection is process of identifying the anomalous behavior from data. The anomaly detection is not normal activity process from normal dealing. This project has been developed using machine learning concept (Data mining Technique). In today's world of computers security, internet attack such as worms and spyware continues to solve as detection techniques improved. This is not so easy.

Anomaly detection project has been using KDD cup (KDD99) data set, SVM and decision tree technique concept, and Jupyter software for writing project code. The proposed recognition algorithm is a hybrid algorithm. It is grouping of two algorithms. Experimental results demonstrate to be better than existing Naive Bayes algorithm. One of simple problem in existing Naïve Bayes detection algorithm is that one must specify the data in advanced and further the technique is very sensitive of noise, mixed pixel and further. KDD99 is cup data set. These algorithms have appurtenant to machine learning. The anomaly detection has activity underway decision tree algorithm with SVM. This project are most important and useful for detect in travelling virus package on the network attacks.

Anomaly Detection has a process useful of identifying the unwanted patchy (anomaly) on the network attacking. In this project has take help and defined machine learning technique and written code in Jupyter software. This is software that examined coming marching on network for spiteful behavior and raising the tocsin denotation detected.

If any hacker hacking or sending unwanted packet on the network that time data analysis algorithm has identifying unwanted data (malicious) and storing data in data frame. Experimental display results investigate to be superior then Decision tree algorithm. It has direct on Machine Learning concept for detecting effect from network internet find out.
The data analysis concept has been useful algorithm rules and make of some normal: Decision tree for feature selection and SVM for parcel reducing, both algorithms are use and provide the differences rules for set the data set.

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