

**“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,
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Data Scientist,
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18th KM, 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.


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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

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DECLARATION

I MOHAMMAD RAJU ALAM student of VI semester MCA, AMC Engineering College,
bearing USN 1AM15MCA10 hereby declare that the project entitle
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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 /
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Name : *Mohammad Raju Alam*

Signature: *MRajuAlam*

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Mohammad Raju Alam

(1AM15MCA10)

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 Naive 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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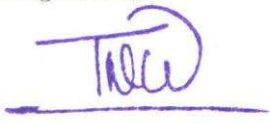

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