FRAUD DETECTION USING MACHINE LEARNING ALGORITHMS: A COMPARATIVE ANALYSIS

A PROJECT REPORT

Submitted by

A.AKHIL KUMAR	314126510002
A.TEJA	314126510001
MD.KAMALUDDIN	314126510063
M.SAI CHAND	314126510058

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE ENGINEERING

Under esteemed guidance of

Mrs.S.V.S.S.LAKSHMI, M.Tech

(Assistant Professor)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY AND SCIENCES

(Affiliated to Andhra University)

SANGIVALASA, VISAKHAPATNAM - 531162

2017-2018

FRAUD DETECTION USING MACHINE LEARNING ALGORITHMS: A COMPARATIVE ANALYSIS

A PROJECT REPORT

Submitted by

A.AKHIL KUMAR	314126510002
A.TEJA	314126510001
MD.KAMALUDDIN	314126510063
M.SAI CHAND	314126510058

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE ENGINEERING

Under esteemed guidance of

Mrs.S.V.S.S.LAKSHMI, M.Tech

(Assistant Professor)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY AND SCIENCES

(Affiliated to Andhra University)

SANGIVALASA, VISAKHAPATNAM - 531162

2017-2018

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY AND SCIENCES
(Affiliated to Andhra University)

SANGIVALASA, VISAKHAPATNAM-531162

BONAFIDE CERTIFICATE

Certified that this project report "**FRAUD DETECTION USING MACHINE LEARNING ALGORITHMS: A COMPARTIVE ANALYSIS"** is the bonafide work of "A.Akhil Kumar(314126510002), A.Teja(314126510001), Md.Kamaluddin(314126510063), M.Sai Chand(314126510058)" who carried out the project work under my supervision.

Prof.R.Sivaranjani, M.Tech., Ph.D.
HEAD OF THE DEPARTMENT
Professor
Department of Computer Science and Engineering
ANITS

Mrs.S.V.S.S.Lakshmi, M.Tech.
PROJECT GUIDE
Assistant Professor
Department of Computer Science and Engineering
ANITS

DECLARATION

We, **A.AKHIL KUMAR, A.TEJA, MD.KAMALUDDIN, M.SAI CHAND,** of final semester B.Tech., in the department of Computer Science Engineering from ANITS, Visakhapatnam, hereby declare that the project work entitled **FRAUD DETECTION USING MACHINE LEARNING ALGORITHMS: A COMPARATIVE ANALYSIS** is carried out by us and submitted in partial fulfillment of the requirements for the award of **Bachelor of Technology in Computer Science Engineering** , under Anil Neerukonda Institute of Technology & Sciences during the academic year 2017-18 and has not been submitted to any other university for the award of any kind of degree.

A.AKHIL KUMAR	314126510002
A.TEJA	314126510001
MD.KAMALUDDIN	314126510063
M.SAI CHAND	314126510058

ACKNOWLEDGEMENT

The satisfaction and euphoria that accompany the successful completion of task would be incomplete without the mention of the people who made it possible, whose constant guidance and encouragement always boosted the morale. We take a great pleasure in presenting a project, which is the result of a studied blend of both research and knowledge.

We first take the privilege to thank the Head of our Department, **Dr.R.Sivaranjani**, for permitting us in laying the first stone of success and providing the lab facilities, we would also like to thank the other staff in our department and lab assistants who directly or indirectly helped us in successful completion of the project.

We feel great to thank **Mrs.S.V.S.S.Lakshmi**, who is our project guide and who shared her valuable knowledge with us and made us understand the real essence of the topic and created interest in us to work day and night for the project; we also thank our B.Tech project coordinator **Mrs.T.Kranthi**, for her support and encouragement.

We also like to thank **Mr.P.Sainath Vital** for providing us the lab resources; we also thank our friends and college staff who extended their part of support in the successful completion of the project.

A.AKHIL KUMAR	314126510002
A.TEJA	314126510001
MD.KAMALUDDIN	314126510063
M.SAI CHAND	314126510058

ABSTRACT

The rapid growth in E-commerce industry has lead to an exponential increase in the use of credit cards for online purchases and consequently there has been a surge in the fraud related to it . Detecting these fraud transactions has become burdensome because, the profiles of normal and fraudulent transactions are ever-changing with time. For predicting these fraudulent transactions, banks make use of various data mining methodologies : they collect past data and devise new features for enhancing the predictive power. The performance of fraud detection in credit card transactions is greatly affected by the sampling approach on data-set, selection of variables and detection technique(s) used. We chose to compare the algorithmic approach of five classification models: Logistic Regression, Naive Bayes, Random Forest, Decision Trees, Neural Networks, to determine which algorithm suits best for our data set.The performance of the techniques is evaluated based on confusion metrics.

TABLE OF CONTENTS