Effective Data Mining Using Neural Networks

Submitted in partial fulfillment of the requirements

of the degree of

Bachelor of Engineering in Computer Engineering

Shreyash Tambe 37

Bhushan Thakur 38

Avnish Vishwakarma 75

Supervisor :

PROF.SMITA JAWALE

(Professor, Computer Engineering Department, VCET)

DEPARTMENT OF COMPUTER ENGINEERING

VIDYAVARDHINI'S COLLEGE OF ENGINEERING AND TECHNOLOGY

K. T. MARG, VASAI ROAD (W.) DIST-THANE, PIN:401202

(Affiliated to University of Mumbai)

2015-2016

CERTIFICATE

This is to certify that the project entitled **"Effective Data Mining Using Neural Networks"** is a bonafide work of

Shreyash Tambe	**37**
Bhushan Thakur	**38**
Avnish Vishwakarma	**75**

submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of **"Bachelor of Engineering"** in **"Computer Engineering"**.

_____	_____
Supervisor/Guide	Co-Supervisor/Guide
(Prof.Smita Jawale)	
_____	_____
Head of Department	Principal
(Dr. Swapna Borde)	(Dr. Ashok Bhonsale)

Project Report Approval for B. E.

This project report entitled ***Effective Data Mining Using Neural Networks***
by

Shreyash Tambe **37**

Bhushan Thakur **38**

Avnish Vishwakarma **75**

is approved for the degree of **BE COMPUTER.**

Examiners

1.----------

2.----------

Date:

Place:

Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

_____

Shreyash Tambe (37)

_____

Bhushan Thakur (38)

_____

Avnish Vishwakarma (75)

Date:

ABSTRACT

Classification is one of the data mining problems receiving great attention recently in the database community. This paper presents an approach to discover symbolic classification rules using neural networks. Neural networks have not been thought suited for data mining because how the classifications were made is not explicitly stated as symbolic rules that are suitable for verification or interpretation by humans. With the proposed approach, concise symbolic rules with high accuracy can be extracted from a neural network. The network is first trained to achieve the required accuracy rate. Redundant connections of the network are then removed by a network pruning algorithm. The activation values of the hidden units in the network are analyzed, and classification rules are generated using the result of this analysis. The effectiveness of the proposed approach is clearly demonstrated by the experimental results on a set of standard data mining test problems.

Table of content