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71)Name of Applicant:

1)Malla Reddy Engineering College
Address of Applicant :Malla Reddy Engineering College Dhulapally post via Kompally Maisammaguda Secunderabad -500100 Secunderabad

2)Dr B Hari Krishna

Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor :

1)Dr B Hari Krishna

Address of Applicant :Associate Professor Computer Science and Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana Email ID & Contact Number: hariboorgadda@gmail.com&9912086272 Secunderabad

2)Mr. K. Mani Raju

Address of Applicant: Assistant Professor Computer Science and Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana. Email ID & Contact Number: maniraju.komma@gmail.com & 9849484697 Secunderabad

3)Dr. Arun Kumar Kandru

4)Dr. Y.L. Malathi Latha

& Technology for Women, chapel Road, Nampally, Hderabad- 500001. State: Telangana Email ID & Contact Number: malathilathadryl@gmail.com & 9963083199 Secunderabad -------

5)Dr J Anitha

Address of Applicant :Professor Computer Science Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana Email ID & Contact Number: anithany28@gmail.com & 9298303067 Secunderabad

6)Ms. T.Jagadeeswari

Address of Applicant :Assistant Professor Computer Science and Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana Email ID & ct Number: jagadeeswari2003@gmail.com & 7842354470 Secunderabad

7)Ms Beri Madhuri

Address of Applicant : Assistant Professor Computer Science Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana Email ID & Contact Number: madhuri16.b@gmail.com & 9949390795 Secunderabad --------

Address of Applicant :Assistant Professor Computer Science Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Medchal-Malkajgiri-500100. State: Telangana Email ID & Contact Number: Paparaonalla259@gmail.com &9866710255 Secunderabad -

9)Mr. Syed Abdul Haq

Address of Applicant : Assistant Professor Computer Science Engineering-Data Science Dept.. Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Mechal-Malkajgiri-500100. State:Telangana Email ID & Contact Number: abdulhaq007@gmail.com & 9989354907 Secunderabad ---------

10)Ms V.Sreedevi

Address of Applicant: Assistant Professor Computer Science Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Mechal-Malkajgiri-500100. State: Telangana Email ID & Contact Number: vaitlasreedevi@gmail.com&9652916312 Secunderabad -

(57) Abstract

ABSTRACT The most popular name for distributed network attacks is distributed denial of service (DDoS) assaults. These attacks take advantage of specific limitations that apply to every asset in the agreement, such as the authorized company's website structure. The current study's author made use of an antiquated KDD dataset. It is essential to use the most recent dataset in order to ascertain the state of DDoS attacks at this time. This paper used a machine learning approach to classify and forecast different types of DDoS attacks. For this, the classification algorithms XGBoost and Random Forest were used. to be able to access the extensive approach that has been suggested for anticipating DDoS attacks. The UNWS-np-15 dataset was obtained from the GitHub source, and Python was used as a simulator in the proposed work. After applying the machine learning models, we constructed a confusion matrix to assess the model performance. The findings showed that 89% was the Precision (PR) and Recall (RE) of the Random Forest algorithm in the first classification. 89% is the average accuracy (AC) of our proposed model. based on the findings. The average accuracy (AC) of our proposed model is 89%, which is both sufficient and outstanding. The second classification yielded findings indicating that the Precision (PR) and Recall (RE) of the XGBoost method are approximately 90%. Our suggested model has an Accuracy (AC) average of 90%. Comparing our study to the earlier research investigations, we found that the defect determination accuracy was significantly higher, coming in at approximately 85% and 79%, respectively.

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