NARASARAOPETA ENGINEERING COLLEGE

(AUTONOMOUS)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

2023-2024

BATCH NUMBER	BG-6
TEAM MEMBERS	Ch.Divya (20471A0578) T.Keerthana (20471A05C1) M.Lahari (20471A05A1)
GUIDE	Dr.Mrs.M.Sireesha, M.Tech,Ph.D
TITLE	Intrusion Detection using Machine Learning
DOMAIN/TECHNOLOGY	MACHINE LEARNING
BASE PAPER LINK	https://doi.org/10.1016/j.aej.2022.02.063
DATASET LINK	https://www.kaggle.com/datasets/hassan06/nslkdd
SOFTWARE REQUIREMENTS	Processor:11th Gen Intel(R) Core(TM) i3.1115G4 @ 3.00GHz 2.19 GHz Cache memory:4MB(Megabyte) RAM:8 gigabyte(GB)
HARDWARE REQUIREMENTS	Operating System: Windows 11,64 bit Operating System Coding Language: Python Python distribution:Jupyter, VsCode

ABSTRACT

In the rapidly evolving digital landscape, maintaining the security of computer networks and systems has become essential. Conventional methods often struggle to remain relevant in light of the increasing complexity and diversity of cyber threats. The frameworks of cybersecurity and network analysis are necessary to detect and respond to malicious activity, unauthorized access, and potential threats within a network or system. Its ability to handle complex, unbalanced datasets and the exceptional performance of the few algorithms we used across several domains make it a serious contender for improving intrusion detection accuracy. Many in-depth experiments are conducted with the NSLKDD dataset to evaluate the performance of different methods. In our investigation, three algorithms XgBoost, CatBoost, and KNN achieved the accuracy score of 99%.