NARASARAOPETA ENGINEERING COLLEGE

(AUTONOMOUS)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

2023-2024

BATCH NUMBER	CG6
TEAM MEMBERS	R Srilakshmi Bai(20471A05H8) T Navyasri(20471A05I9) P Sakhitha(20471A05H2)
GUIDE	N Vijay Kumar
TITLE	Detection of Autism Spectrum Disorder in Children
DOMAIN/TECHNOLOGY	MACHINE LEARNING
BASE PAPER LINK	https://link.springer.com/article/10.1007/s42979-021-00776-5
DATASET LINK	https://www.kaggle.com/fabdelja/autism-screening-for-toddlers
SOFTWARE REQUIREMENTS	Browser: Any latest browser like Chrome Operating System: Windows 10 Server or laterPython,TensorFlow or PyTorch.

HARDWARE REQUIREMENTS	Processor: Intel® Dual Core 2.0GHz minimum Hard Disk: 1TB minimum RAM: 8GB or more GPU
ABSTRACT	Autism Spectrum Disorder (ASD) is a neurological disorder which might have a lifelong impact on the language learning, speech, cognitive, and social skills of an individual. Its symptoms usually show up in the developmental stages, i.e., within the first two years after birth, and it impacts around 1% of the population globally. ASD is mainly caused by genetics or by environmental factors; however, its conditions can be improved by detecting and treating it at earlier stages. In the current times, clinical standardized tests are the only methods which are being used, to diagnose ASD. This not only requires prolonged diagnostic time but also faces a steep increase in medical costs. To improve the precision and time required for diagnosis, machine learning techniques are being used to complement the conventional methods. We have applied models such as Support Vector Machines (SVM), Random Forest Classifier (RFC), Naïve Bayes (NB), Logistic Regression (LR), and KNN to our dataset and constructed predictive models based on the outcome. The main objective of our paper is to thus determine if the child is susceptible to ASD in its nascent stages, which would help streamline the diagnosis process. Based on our results, Logistic Regression gives the highest accuracy for our selected dataset.