NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

2024-2025

BATCH NUMBER	BB - 9
TEAM MEMBERS	Vattikuti rakesh Kumar (21471A05D5) Pulibandal Sai Kumar (21471A05B4) Shaik Zaheed Husain (21471A05C6)
GUIDE	G. Saranya
TITLE	Deep Learning Dog Breed Identification and Classification
DOMAIN/TECHNOLOGY	DEEP LEARNING
BASE PAPER LINK	https://ieeexplore.ieee.org/document/10192536
DATASET LINK	http://github.com/celestial-shubham/Dog-Breed-Predictor/blob/main/dog_breed_prediction_project.ipynb https://www.kaggle.com/code/nayanack/breed-classification
SOFTWARE REQUIREMENTS	Windows 10,11 , 64 bit, Python 3.8, Operating System

HARDWARE REQUIREMENTS	Processor: 2.80GHz (Dual Processors) and GeForce GTX 1080 NVIDIA card Memory: 24GB

ABSTRACT	This paper will identify the specific dog breed from an image using deep learning and computer vision techniques. The aim is for the user to upload a picture of a dog and then the model should determine the breed of the dog from the list of 120 available breeds located in the dataset. Identifying dog breeds is fundamental in veterinary medicine, pet care, and dog welfare. However, single deep learning models and traditional methods have their fair share of challenges, especially regarding the accuracy that comes along with high diversity in the appearances of dogs. The proposed work conducts prediction of breed for dogs from deep learning modeling applying a number of strategies that include Xcep tion, NASNetMobile, Inception and Xception. The current system made use of Inception-v3 and InceptionResNetV2 on Stanford Dogs Standard Datasets. The blended models are viewed to be fine combinations of NASNetMobile, Inception and Xception to and Inception-v3 and Xception. This model performs better than others single models which include Xception, InceptionV3, ResNet50 and ResNet101. To enhance the results, the author used a transfer learning approach with data enlargement. The Accuracy which are obtained were 86.92 and 79.69 validation ac curacy scores against InceptionV3 this ad InceptionV3 respectively. The most accuracy of InceptionResNetV2 was 84.92 in the present system. By applying the proposed algorithms the validation accuracy of Inception ResNetV2 was 84.92, 77.68 of Xception, 83.22 of NASNetMobile, 79.38 of Inception V3. Whichever of the Hybrid of the Inception-v3 Xception method is the last type in the combination of ordinary measurement does offers a level of accuracy that is unsurpassed amongst these algorithm coming in at 92.4.

Signature of the student(s) Signature of the Project Coordinator Signature of the HoD