

**20IT7301: DEEP LEARNING**

**HOME ASSIGNMENT-3 QUESTIONS**

A.Y:2023-24

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| Batch No | Question | CO | BTL |
| 1 | The training archive contains 25,000 images of dogs and cats. Implement VGG model of CNN by taking an example of classifying an image as a dog or cat. Dataset can be downloaded from https://www.kaggle.com/c/dogs-vs-cats/data | CO2,CO4 | CREATE |
| 2 | Malaria Cell Image dataset. This dataset consists of 27,558 images of microscopic blood samples. The dataset consists of 2 folders – folders-Parasitized and Uninfected. Sample Images-a) parasitized blood sample, b) Uninfected blood sample . Build CNN classification model using the dataset  Data source: https://www.kaggle.com/datasets/iarunava/cell-images-for-detecting-malaria | CO2,CO4 | CREATE |
| 3 | The Fashion MNIST dataset consists of 70,000 images, of which 60,000 are for training, and the remaining are for testing purposes. The images are in grayscale format. Each image consists of 28×28 pixels, and the number of categories is 10. and they are as follows: T-shirt/top, Trouser, Pullover, Dress, Coat, Sandal, Shirt, Sneaker, Bag ,Ankle boot. Create alexnet[CNN](https://www.geeksforgeeks.org/image-classifier-using-cnn/) model to identify the image categories.Datasource:<https://www.kaggle.com/datasets/zalando-research/fashionmnist> | CO2,CO4 | CREATE |
| 4 | The Places365-Standard dataset contains 1.8 million train images from 365 scene categories, which are used to train the Places365 CNNs. There are 50 images per category in the validation set and 900 images per category in the testing set. Source: tensorflow\_datasets/datasets/places365\_small. Create a inception V3 model of convolutional neural network to classify images. | CO2,CO4 | CREATE |
| 5 | Consider a dataset containing different crops. **This dataset consists of about 87K rgb images of healthy and diseased crop leaves which is categorized into 38 different classes.**Classify crop laves -disease using convolution neural network with tensorflow. Datasource: https://www.kaggle.com/datasets/vipoooool/new-plant-diseases-dataset | CO2,CO4 | CREATE |
| 6 | The citrus dataset contains images of healthy and unhealthy citrus fruits and leaves with the following labels: Black Spot, Canker, Greening, and Healthy. The exported images are in PNG format and have 256x256 pixels. Data source: https://www.tensorflow.org/datasets/catalog/citrus\_leaves | CO2,CO4 | CREATE |
| 7 | Create a convolution neural network to classify flowers. The flowers dataset contains 3,700 photos of flowers. You need to classify them into 5 classes. Data Source: https://github.com/tensorflow/datasets/blob/master/docs/catalog/tf\_flowers.md | CO2,CO4 | CREATE |
| 8 | The Plant leaves dataset consists of 4502 images of healthy and unhealthy plant leaves divided into 22 categories by species and state of health. The images are in high resolution JPG format. Data source:https://data.mendeley.com/datasets/hb74ynkjcn/1 | CO2,CO4 | CREATE |
| 9 | Use a deep learning model to classify the plant seedling by using a supervised learning technique. The data-set is available on Kaggle : (<https://www.kaggle.com/c/plant-seedlings-classification/data>). There are 12 species in the data-set. species in the data-set | CO2,CO4 | CREATE |
| 10 | Fruits 360 dataset: A dataset of images containing fruits and vegetables. It contains 90483 images of 131 fruits and vegetables. Build a CNN model to correctly classify fruits .  Source: https://www.kaggle.com/datasets/moltean/fruits | CO2,CO4 | CREATE |
| 11 | Build Convolutional Neural Network with VGG model for Fauna Image Classification.UseAnimal-10 dataset which contains 26,179 images from 10 animal classes.  Source: https://github.com/kavishsanghvi/fauna-image-classification-using-convolutional-neural-network | CO2,CO4 | CREATE |
| 12 | Face mask Data set consists of 7553 RGB images in 2 folders as with\_mask and without\_mask. Images are named as label with\_mask and without\_mask. Images of faces with mask are 3725 and images of faces without mask are 3828. Data source: https://www.kaggle.com/datasets/omkargurav/face-mask-dataset. | CO2,CO4 | CREATE |
| 13 | Automate the process of plant recognition using a leaf image as an input. The original dataset is hosted on the University of California (UCL)'s website (<https://archive.ics.uci.edu/ml/datasets/leaf>). There are a total of 99 plant species to which a leaf can belong to and there are around 15 samples taken from each species. Create a convolution neural network to classify images. | CO2,CO4 | CREATE |
| 13 | Build a CNN model for Skin Lesion Classification using HAM10000 (“Human Against Machine with 10000 training images”) dataset which contains 10,015 dermatoscopic images. Source: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/DBW86T | CO2,CO4 | CREATE |
| 14 | Consider Labeled Faces in the Wild dataset. It is a database of face photographs designed for studying the problem of unconstrained face recognition. Build a model to improve image resolution using auto encoder architecture.  Source: https://www.kaggle.com/jake126/face-detection-using-cnn-with-the-lfw-dataset | CO2,CO4 | CREATE |
| 15 | The PlantVillage dataset consists of 54303 healthy and unhealthy leaf images divided into 38 categories by species and disease. Dataset URL: <https://data.mendeley.com/datasets/tywbtsjrjv/1> Create a VGG model of CNN to classify the data | CO2,CO4 | CREATE |
| 16 | Consider a dataset containing different crops. **This dataset consists of about 87K rgb images of healthy and diseased crop leaves which is categorized into 38 different classes.**Classifycrop laves -disease using convolution neural network with tensorflow. Datasource: https://www.kaggle.com/datasets/vipoooool/new-plant-diseases-dataset | CO2,CO4 | CREATE |
| 17 | Malaria Cell Image dataset. This dataset consists of 27,558 images of microscopic blood samples. The dataset consists of 2 folders – folders-Parasitized and Uninfected. Sample Images-a) parasitized blood sample, b) Uninfected blood sample . Build CNN classification model using the dataset  Data source: https://www.kaggle.com/datasets/iarunava/cell-images-for-detecting-malaria | CO2,CO4 | CREATE |
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**Home Assignment Batches**

|  |  |  |
| --- | --- | --- |
| **Batch No** | **Roll Nos** | **Name** |
| 1 | 208W1A1267 | ALAVALA LAKSHMI SANKEERTHANA |
| 208W1A1266 | ALAPATI RENUKA |
| 208W1A1271 | ANNAM JITIN CHAND |
| 2 | 208W1A1279 | CHEEDELLA KUSHMITHA |
| 208W1A1274 | BATCHU ANUSH GUPTA |
| 208W1A1275 | BHAGAVATULA APARNA |
| 3 | 208W1A1288 | KANCHARLA PRABHU RAM |
| 208W1A1276 | CH VAMSI SATYANARAYANA |
| 208W1A1277 | CHAGARLAMUDI HEMAN SAI |
| 4 | 208W1A1290 | KESIREDDY LAKSHMIKA |
| 208W1A1282 | DHARMAPURI MAHITH PAUL |
| 208W5A1207 | ANGADALA DIVYA SAI |
| 5 | 208W1A1294 | KOWTHAVARAPU DHATRI PHANI PRIYA |
| 208W1A1283 | GANDABATHULA SAI VAMSI |
| 208W5A1208 | MAHALI TIRUMALA RAJU |
| 6 | 208W1A1298 | MOHAMMAD NEELOFAR JAHA |
| 208W1A12C7 | VEMULAPALLI SAIESH |
| 208W1A1297 | MEDISETTY LIKHITHA |
| 7 | 208W1A12A2 | NEELAM B V D SOUJITHA |
| 208W1A1285 | JAGANNADHAM TEJA |
| 208W1A1286 | JASTHI VIVEK VARDHAN |
| 8 | 208W1A12A8 | PAVAN KUMAR MEKA |
| 208W1A1287 | KAKUMANU CHRISTT VICTOR |
| 208W5A1210 | TATA TEJASWINI |
| 9 | 208W1A12C0 | SAINI ROSHINI |
| 208W1A1291 | KOLLURI MOUNAV |
| 208W5A1211 | THOKALA JOY JEEVAN |
| 10 | 208W1A12C6 | TUMMALA VENKATA NAGA NYMISHA |
| 208W1A1292 | KOMMAREDDY LEELA SATYA |
| 208W1A12A0 | MOTAMARRI JAYA NAGA VENAKTA SAI |
| 11 | 208W1A1268 | ALURI CHARAN |
| 208W1A12C8 | YESU RAJU PARUSU |
| 208W5A1212 | BURADA PAVAN |
| 12 | 208W1A1270 | ANJU PRIYA MANAM |
| 208W1A12A4 | PANCHUMARTHI YOGESWARA SAI SRINIVAS |
| 208W1A12A6 | PARASA NIRUPAMA |
| 13 | 208W1A1272 | ANNAM SIRI VARSHINI |
| 208W1A12B0 | POLAVARAPU VENKATA NAGA RISHITHA CHOWDARY |
| 208W1A12B1 | POLUKONDA GUNA SRI MANJUNADH |
| 14 | 208W1A1273 | BANAVATHU MOUNICA KAUMUDHI |
| 208W1A12B2 | PORITIGADDA LIKHITHA |
| 208W1A12B3 | POTLURU SRI SASHANK |
| 15 | 208W1A1278 | CHATRASI AMAR LOKESH VENKATA SIVA SAI |
| 208W1A12B4 | POTNURU RAJU DEEPAK |
| 208W1A12B5 | PRATHIPATI VASAVI |
| 16 | 208W1A1280 | CHENNAREDDY LAKSHMI NARASIMHAM |
| 208W1A12B6 | PULAPAKA VARUN KUMAR |
| 208W1A12B7 | RANGISETTI LAKSHMI SRAVANTHI |
| 17 | 208W1A1281 | CHINAMUTTEVI DEEPIKA |
| 208W1A12B8 | RAYIDI SAI SREE SRESTA |
| 208W1A12B9 | REVALAMADUGU RAGHU VARMA |
| 18 | 208W1A1299 | MOHAMMAD RIZWANULLAH |
| 208W1A12C1 | SAMBANA HARSHITHA |
| 208W1A12C2 | SAMSANI ABHI VENKATA SAI |
| 19 | 208W1A1296 | MAREEDU GEETHIKA |
| 208W1A12C3 | SHETTY VENU |
| 208W1A12C4 | TEKI BHARGAV TIRUPATHI KAMARAJU |
| 20 | 208W1A12A3 | PALLETI DIVYA SREE |
| 208W1A12C5 | TULLURI NAGA VENNELA |
| 208W5A1209 | PALLAPTI LATHASRI |
| 21 | 208W1A12A5 | PANITINI MONICA |
| 208W1A1293 | KOMMINENI UDAY KIRAN |
| 208W1A12A9 | PERNI DEVI DIVYA SRI |
| 22 | 208W1A1269 | AMPALAM YAMUNA |
| 208W1A1295 | MANOHAR RAJ KOKKILIGADDA |
| 208W1A1289 | KANTAMNENI MAHITA |
| 208W1A12A1 | NAGARAJU AJAY KUMAR VARMA |