IEEE DOG BREED CLASSIFIER FOR FACIAL RECOGNITION USING CONVOLUTIONAL NEURAL NETWORKS

Abstract:

This paper dealt with the breed classification of dogs. To classify dog breed is a challenging part under a deep convolutional neural network. A set of sample images of a breed of dogs and humans are used to classify and learn the features of the breed. The images are converted to a single label of dimension with image processing. The to find the existing percentage of features in humans of dogs and dogs of human. This research work has used principal component analysis to shorten the most similar features into one group to make an easy study of the features into the deep neural networks. And, the facial features are stored in a vector form. This prepared vector will be compared with each feature of the dog into the database

and will give the most efficient result. In the proposed experiment, 13233 human images and 8351 dog images are taken into consideration. The images under test are classified as a breed with the minimum weight between test and train images. This paper is based on research work that classifies different dogs breed using CNN. If the image of a dog is supplied then the algorithm will work for finding the breed of dog and features similarity in the breed and if the human image is supplied it determines the facial features existing in a dog of human and vice-versa.

Introduction:

The goal of machine learning generally is to understand the structure of data and fit that data into models that can be understood and utilized by people. Although machine learning is a field within computer science, it differs from traditional

computational approaches. In traditional computing, algorithms are sets of explicitly programmed instructions used by computers to calculate or problem solve. Machine learning algorithms instead allow for computers to train on data inputs and use statistical analysis in order to output values that fall within a specific range. Because of this, machine learning facilitates computers in building models from sample data in order to automate decision-making processes based on data inputs. Most of the dog breeds are developed in order to drive some specific things. Knowing the breed of dog can help us to predict and understand the behavior. And this is essential when it comes to managing and training dogs for specific tasks. In machine learning, convolutional Neural Network (CNN) is complicated feed forward neural networks. CNNs are used for image classification and recognition due to its excessive accuracy. The CNN follows a hierarchical model which

struggles on constructing a network, form of a funnel, and eventually offers out a definitely related layer the place all the neurons are linked to each and every different and consequently the output is processed A computer learns to classify images, text and sound. The pc is trained with large image datasets then it changes the pixel value of the image to an indoor representation, where the classifier can detect patterns on the input image. We proposed a model that uses CNN network to classify Images between Human and Dogs.

Existing System

There is site were we can search dog and its details , we can get to known from veterinary consultant

Existing System disadvantages

There is site were we can search dog and its details ,but we cannot upload and get the breed of a dog through its image, yes we get breed detail by passing through allots of data were we have spent hours in front of the system to get a particular breed we like to know

Proposed System

The webapp that predict the dog breed by inputting the image through the upload. The pet lover love this system because it not the details of the dog user search but also, They can shop the pet item through this web , no need to jump to another site for pet or pet product

Objective of Proposed System

The advantage is that this web app using cnn deep learning its show high accuracy in image classification so

site can predict the breed of a dog that uploaded by the user , the site also proved a ecommerce facilities to purchase pet and pet items

Module

1. Admin Module
2. User Module
3. Shop owner Module

Module description:

I. Admin Module
   a. View user and update delete them
   b. view prediction by user
   c. Register Medicine and view Register

II. User Module
   a. View prediction
   b. Upload image
   c. product

III. Shop owner

a. Product Registration

b. Breed Expensive Registration

Table Design:

Admin module

Admin_tbl

Name	Type	Description
Id	Int	Id number
Username	Varchar	Username
Password	Varchar	password

User Module:

user_reg

Name	Type	Description
Id	Int	Id number
Username	Varchar	Username
Password	Varchar	Password
Name	Varchar	Name
Email	Varchar	Email id
Contact	Varchar	Contact number
Upload	Varchar	Photo upload
Ver_id	Varchar	Verification id

Shop_owner

Name	Type	Description
Id	Int	Id number
Username	Varchar	Username
Password	Varchar	Password
Name	Varchar	Name
Email	Varchar	Email id
Contact	Varchar	Contact number
Upload	Varchar	Photo upload
Ver_id	Varchar	Verification id

product

Name	Type	Description
Id	Int	Id number
Type	Varchar	Product type
Name	Varchar	Product Name
price	Varchar	price

Breed_expensive

Name	Type	Description
Id	Int	Id number
Breed	Varchar	BreedName
exp	Varchar	expens

prediction

Name	Type	Description
Id	Int	Id number
User id	Varchar	User id
Prediction	Varchar	prediction

HARDWARE SPECIFICATION

Processor: Intel Pentium or above.

Hard Disc: 320GB.

Display Type: PC Display.

Keyboard: PC/AT Enhanced PS/2Keyboard (110/10Key).

Mouse: First/Pilot Mouse Serial (c48).

Input Device: Mouse, keyboard.

Output Device: Monitor.

SOFTWARE SPECIFICATION

Operating System: WINDOWS 8 or above for better performance .

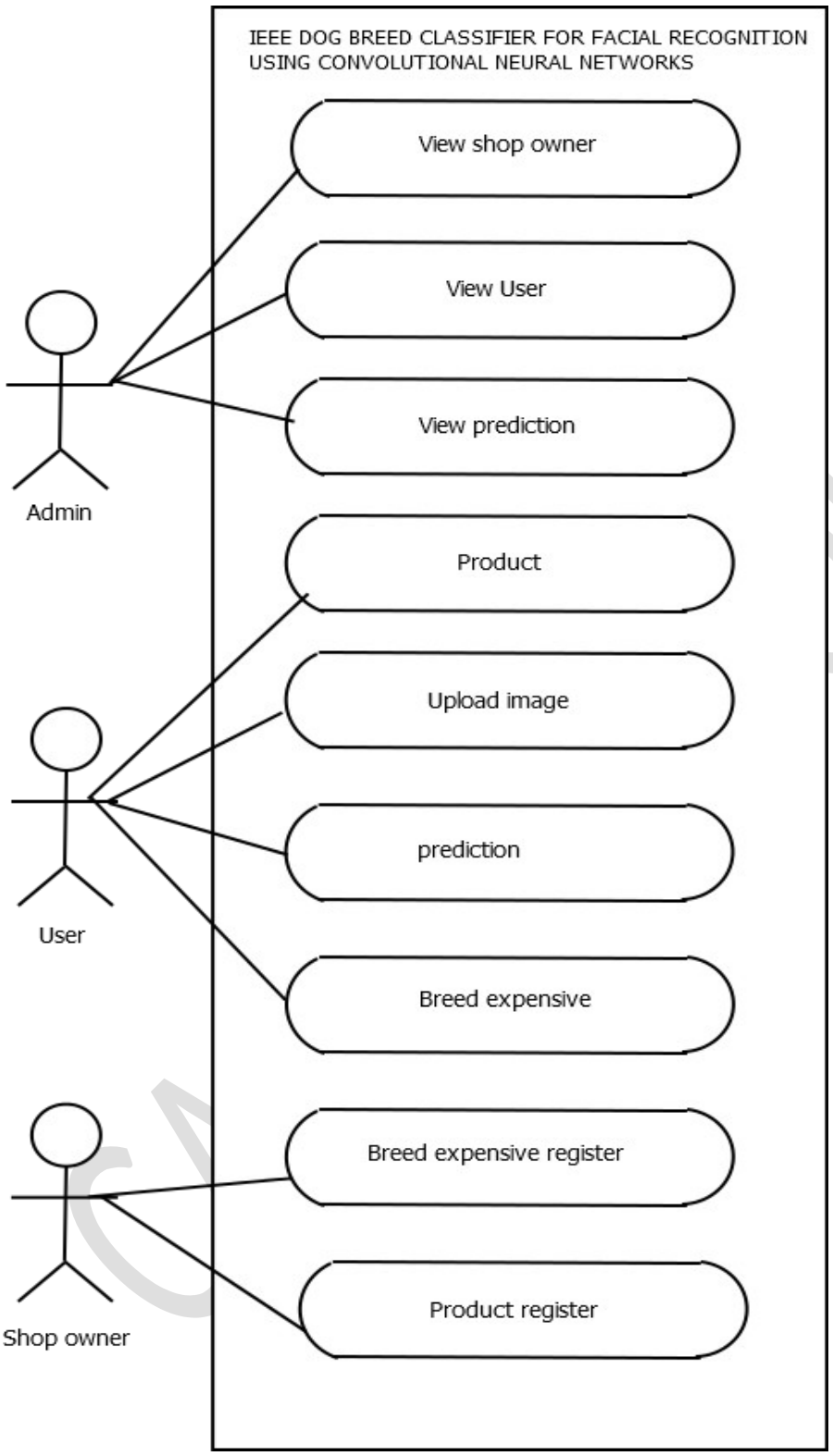
Front end: Python (For web application), HTML.

Back end: SQLite.

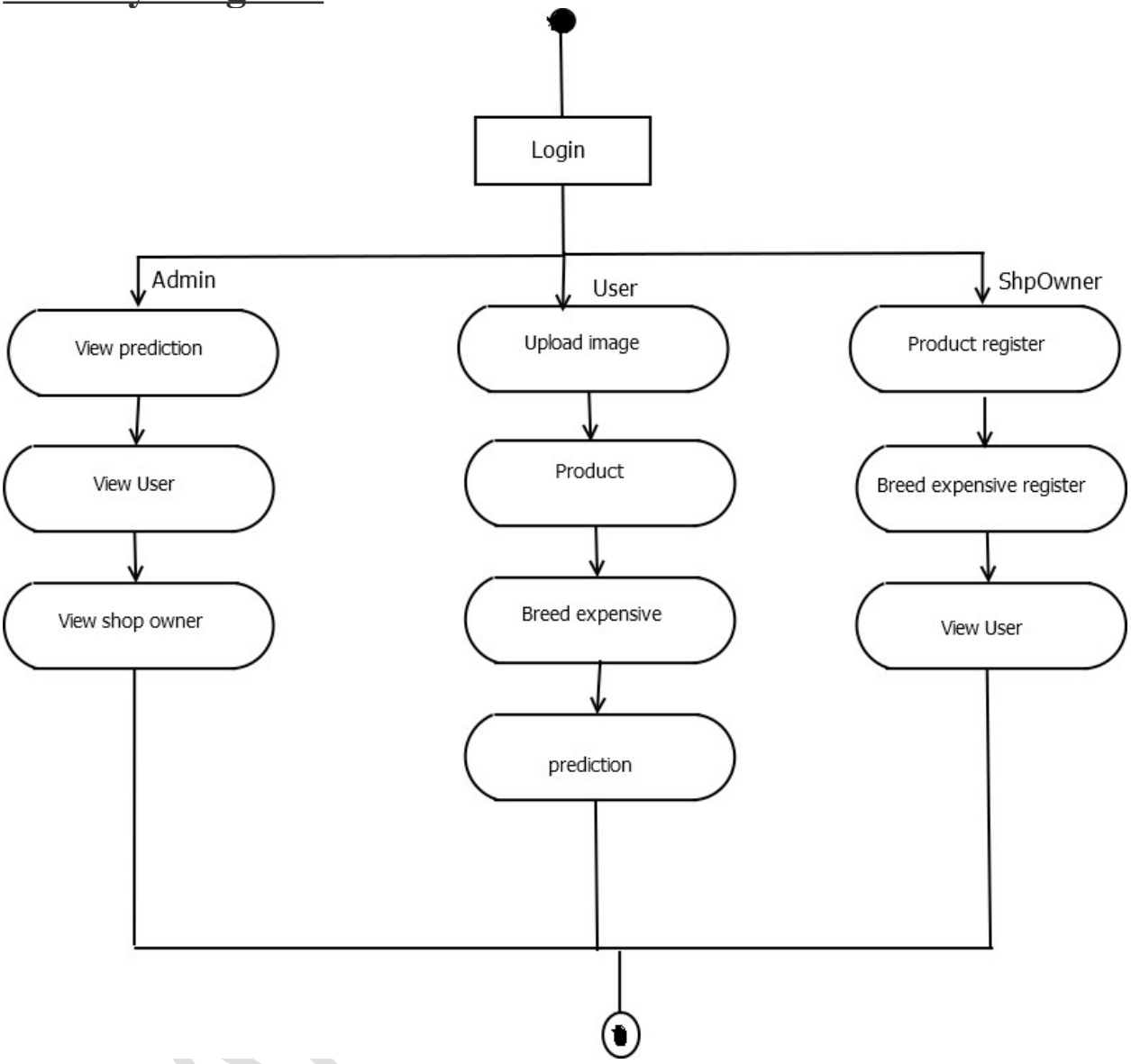
Software: Anaconda, visual studio code.

Web Browser: Internet Explorer/Google Chrome/Firefox.

Use Case Diagram


IEEE DOG BREED CLASSIFIER FOR FACIAL RECOGNITION USING CONVOLUTIONAL NEURAL NETWORKS
View shop owner
View User
View prediction
Admin
Product
Upload image
prediction
User
Breed expensive
Breed expensive register
Product register
Shop owner

Activity Diagram



Sprint planner

Feature in	Sprint	Start date	End date	Duration-Days	Estimation work	Spring goal

CONCLUSION

In this system Convolutional neural network is a learning method for data analysis and predictions, now days it also become very popular for image classification problems. Dog breed prediction of deep learning developed using convolutional neural network is to predict the breed of hundred images in taking their images as input. Usage transfer learning on the way to build model that make output and around to hundreds of dissimilar dog types. The results were pretty good for the images the model was shown. The algorithm was able to identify dog breeds quite exactly. Transfer learning takes an excessive choice in the upcoming in joining a pre-built model by the model we created.