UNIVERSITY OF TECHNOLOGY & EDUCATION

PROJECT ARTIFICIAL INTELLIGENCE

PETS IDENTIFICATION & THEIRS CHARACTERISTICS REAL-TIME

INTRODUCTION

In the 4.0 era, people apply artificial intelligence in all areas of life to save time and effort.

In the field of education, teachers' lectures need to be repeated many times to help students remember long and not forget - especially children from 3-6 years old.

With the hope of being able to create an application that automatically identifies animals to become a useful teaching tool for teachers teaching students from 3 to 6 years old. With this animal identification application, in addition to being a teaching tool to create new learning inspirations for young children, besides watching animal videos or traditional pictures, it also helps parents tutor their children at home. It also helps children to review their own lessons at home and that leads to less burden on teachers

Identifying the worldview for ages 3-6 is extremely important, so creating this model is extremely necessary.

RESEARCH SUBJECTS

The model that I made, the goal is to build a machine learning model by CNN method capable of identifying different animals through the computer's Webcam.

Because there are hundreds of animals in nature. So, I would like to ask for permission to choose 15 typical animals to include in the model. The list of animals that I choose to classify in the image data set includes: Dog, Cat, Spider, Chicken, Sheep, Squirrel, Eagle, Gold Fish, Turtle, Cow, Horse , Hamster, Hedgehog, Butterfly ...

DATA PREPARATION

IMAGE DATA TYPE

- 80% TRAIN
- 20% VALIDATION
- 20% TESTING

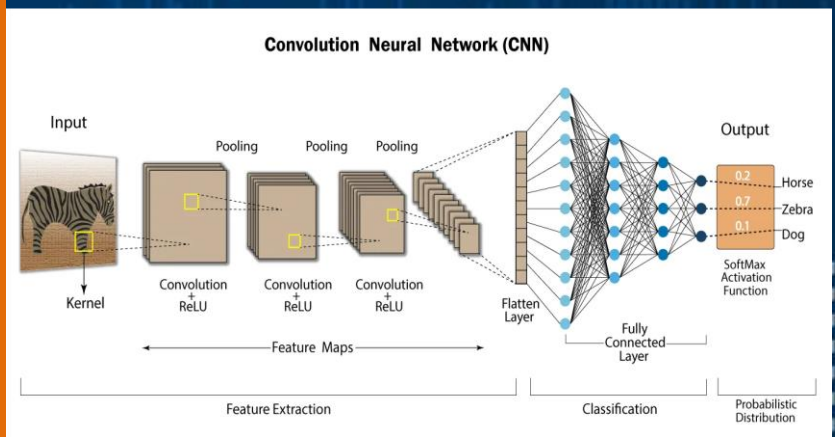
WAY TO COLLECT DATA

Google

kaggle

Total number of photos (28,867):
Train (18474) Validation (4619) Test (5774)

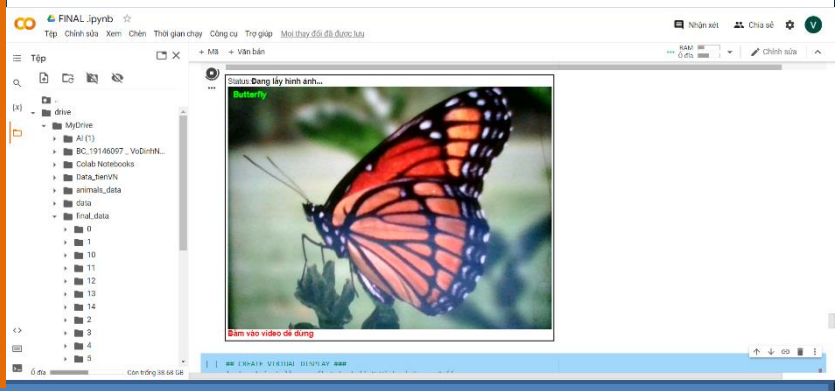
RESULT & TESTING



PROCESS MAP OF PET IDENTIFICATION MODEL

TensorFlow

Keras



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TOPIC : Identify 15 pets and their Characteristics Real-time