Identify your favorite pet

Objective :

Check if a picture contains my favorite pet or not.

Mission statement :

- Create your own dataset.
- Define your classification strategy.
- Compare a custom sklearn made model with a pretrained TF-hub model .

Suggested Dataset :

- NA

Ressources:

- Sklearn documentation:
  - Recognizing hand-written digits
  - Novelty and Outlier Detection
  - One Class SVM
- TensorFlow documentation:
  - Transfer learning with TensorFlow Hub
- Blogs:
  - Kapernikov: image classification with sci-kit learn
  - Paper with code: Best classification models on common datasets
  - Hugging Face: what is image classification ?
- Notebooks:
  - One Class Classification for Images
- Youtube videos:

    - Introduction to image classification
    - CNN
    - CNN architecture

Livrables :

- **A notebook** (html or ipynb) :
    - Introduction
    - Dataset loading
    - Data exploration
    - Preprocessing
    - Modelization
    - Performances evaluation
    - Conclusion
- **BONUS:**
    - Script or notebook : Automatize the dataset preprocessing and model training.

Evaluation criterias (120 / 100 pts) :

Skill	Description	Points
Introduction	Using at least 3 different resources (kaggle notebooks, blogs, youtube videos or else…), explain your strategy and why you think this is going to work.	20
Modelization	● How does your model work and why do you think it is interesting for this dataset modelisation? ● Bibliographical references are present.	20
Performances	● A baseline is defined. ● All necessary comparisons are done. ● Figures are readable and legends are present. ● The number of points for this criteria is weighted by your model performances.	60
Application (bonus)	● A documentation explaining the general ideas of your program and its methods is present. ● The script is functional.	20