Project Title: Flower recognition

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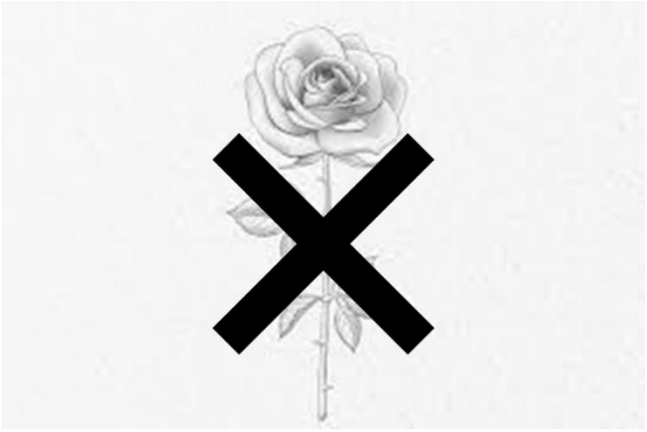
Aim: Flask based App to identify type of flower from an uploaded image

Data Collection:

- Google Images: Web scraping (Selenium and Chromedriver).
- Flickr: API (good API call limit 3600 queries per hour), used flickrapi python package.
- Pixabay: API (100 requests per minute limit)

Data cleaning:

Combining images and getting rid of junk images (manually)



Steps

1. Preprocessing steps:
    - Resizing
    - Rescaling
    - Labeling

2. Layers:

Convolutional layer Parameters:

- Number of kernels
- Spatial extend of each one.
- Stride Size
- Amount of zero padding

Pooling layer Parameters:

- Spatial extend of each one.
- Stride size

Repeat above layers as needed.

3. Flatten and get Fully connected (FC) layer.
4. Dropout layer (decide while modeling)
5. Activation functions (chose from relu, sigmoid, tanh, softmax)
6. Compile the model.
7. Train the model.
8. Plot the loss and accuracy curves.
9. Evaluate the model.
10. Get classification report and confusion matrix.
11. Test the model.
12. Update and repeat if not happy with the results.
13. Augment if needed.
14. Validate and predict.
15. Save the model when happy with the results.

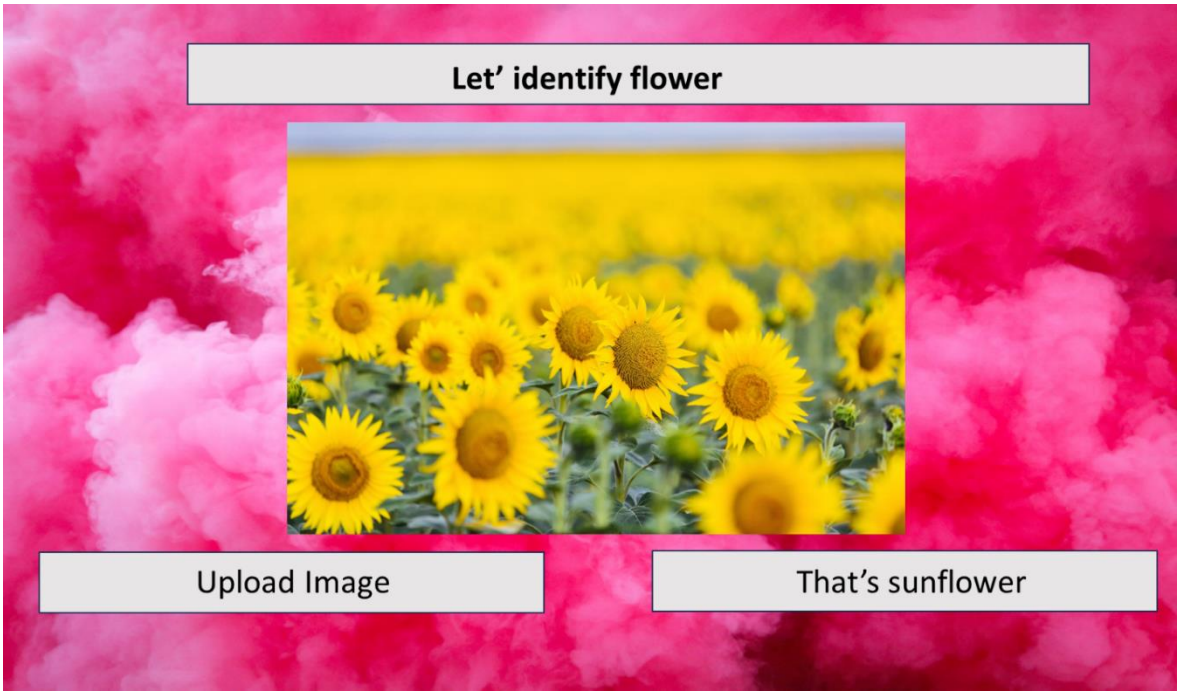
Flask app

- App Routes:
- @app.route("/about")
  @app.route("/process", methods=['GET', 'POST'])
  @app.route("/upload", methods = ['GET', 'POST'])

JavaScript CSS and HTML

- Event listeners (click, button, drag drop, results)
- Take help for designing from inspecting web pages.

HTML layout



Work Breakdown Structure

Task	Member responsible	Delivery Date	Status
Data collection	Everybody	17 July	Done
Data cleaning	Everybody	21 July	Done
Model (Training, Testing & validating)	Everybody (Choose the best one)	26 July	In progress
Flask App	JavaScript (Sweta), HTML(Rimple), CSS(Sakshi), Flask code (Sweta ,Rimple)	30 July	In progress
Combining Work	Everybody	1 Aug	
Read me markdown	Rimple	2 Aug	