Flowers Classification using CNN

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**1.Background:**

We plan to solve the flower classification problem. Classification about flowers is a complicated task for people without certain knowledge. Therefore, we want to help normal cumstor classify flowers.

**2.Dataset name:**

102 Category Flower Dataset

**3.Dataset link:**

<https://www.robots.ox.ac.uk/~vgg/data/flowers/102/>

**4.Is feature extraction used:**

Yes, we use vgg network to extract features.

**5. Detail on Feature Extraction:**

We usevgg11, vgg13 and vgg16 to extract latent features. For example, vgg11 will produce 20588\*1 vector as output, then use fully connected layer to transfer it to 102 hot-encoder

**6. What model(s) are using:**

Mostly based on vgg network, we are designing our own model by comparing different sized vgg net. And we are planning to distinguish the output features from vgg network using SVM. If SVM does not show a better performance, we may just use fully-connected layer and softmax layer to distinguish features.

**7. Progress Report:**

We augmented the dataset by rotating, flipping, cropping and so on, to enrich the dataset, in case of overfitting.Then we compared CNNs with different feature extractions networks, including VGG11, VGG13 and VGG16. Different feature extraction networks.

**8.Team member contribution:**

Each member is responsible for one VGG network.

**9.Reference:**

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