

## Flower Recognition

### I. Dataset

A flower recognition system can bring convenience to our daily life. This project aims to do classification for flowers. The data set to be used is the Flower Recognition dataset from Kaggle ([www.kaggle.com/alxmamaev/flowers-recognition](https://www.kaggle.com/alxmamaev/flowers-recognition)), which contains 4242 images of flowers. The data collection is based on the data Flickr, Google and Yandex images.

### II. Methodology

#### i. Data preprocessing

The training dataset is divided into five classes: chamomile, tulip, rose, sunflower and dandelion. Photos are not reduced to a single size. Since the pictures have different sizes, the first thing to do would be resizing them into a single size.

#### ii. Machine learning model

Inter-class similarities between different species and the intra-class variation among the same species is a giant challenge for flower recognition. Thus, this project will build a classification system based on deep learning. Specifically, the project will be using a CNN model.

#### iii. Final conceptualization

The project will be a mobile/web app that will take get pictures and send the image to CNN to do the classification.

## References

Shi, L., Li, Z., & Song, D. (2019). A Flower Auto-Recognition System Based on Deep Learning. *IOP Conference Series: Earth and Environmental Science*, 234, 012088. doi: 10.1088/1755-1315/234/1/012088