Abstract

For orchids growers, dealing with the plant's health is very important since it affect the plant's growth. For a new orchid grower, identifying orchid problems manually in advance is important. The problems should be identified earlier, so it does not slow down the orchid growth or cause the orchid's death. Therefore, in this paper we propose the orchid problems classification more specifically leaf disease classification to help the new orchid growers. We collected 440 leaf images and applied Convolutional Neural Networks (CNN) to identify 3 classes of orchids disorder which are: Colletotrichum, Sunburn, and Mites. To simulate the real condition, we also add healthy leaves as a class. In our experiment, we applied k-fold cross-validation and obtained the testing set average accuracy of 93% and the highest accuracy of 97%.

Keywords: classification, CNN, image processing, leaf disease, k-fold cross-validation