Review Prefence

Yanyong

Zhang

yanyongz@ustc.edu.cn

university of science and technology of china

Deqin

Xiao

[deqinx@163.com](mailto:deqinx@163.com)

south china agricultural university

Ning

Wang

[ning.wang@okstate.edu](mailto:ning.wang@okstate.edu)

Oklahoma State University

Naiqian

Zhang

zhangn@k-state.edu

Kansas State University

1. Yes,we made a research which develop new machine vision algorithms with potential application to agriculture.
2. Yes,we have seriously edited and checked manuscript for correct English.
3. Yes,we followed the COMPAG Guide for Authors in preparing our manuscript.
4. Yes,we have.
5. No,we don’t have.

Flooding-based mobilenet to identify cucumber diseases from leaf images in natural scenes

Domestic cucumber production is declining due to various pathologic diseases, but the technology of plant pathologic detection is not mature and requires high labor costs. In addition, since the planting site is usually a high-density scene, most photos taken are shot from various angles, and the background is messy, resulting in poor detection reliability. In this paper, cucumber leaf image data in batches is collected on agricultural website, and simply processed. The system to identify cucumber diseases from leaf images in natural scenes is established so that famers can detect diseases more quickly. Farmers can upload cucumber pictures by taking photos, and the system can quickly identify and judge with high accuracy. With a lightweight and fast MobileNetv3 network structure, seven kinds of cucumber leaf disease classification can be quickly and accurately completed. The network model is achieved by selecting appropriate parameters, optimizer, and batch capacity through the single variable method. In addition, a new training strategy of data set loss -- flooding method is introduced in this paper, replacing the strategy of loss decline, which finally achieves 83.3% accuracy on our data set. Finally, two public data sets of PlantVillage and apple disease are selected for another experiment. The accuracy is up to 99% and 98.1%, which proves the universality of the strategy proposed in this paper. The code for all the experiments will be open source in https://github.com/YiQuanMarx/Agricultural\\_Diseases\\_Dentification for reference.

Flooding;Lightweight;MobileNet v3;Cucumber disease;Crop QA

Zhengle

Wang

*wangzhengle@cau.edu.cn*

Rujia

Wang

*WNHwrj@bupt.edu.cn*

Jiasi

Chen

*chenjsi@bupt.edu.cn*

Hongju

Gao

*hjgao@cau.edu.cn*