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(57) Abstract :
HYBRID CLASSIFICATION SCHEME FOR PLANT DISEASE RECOGNITION AND DETECTION IN IMAGE PROCESSING An interface module configured to receive an image of a plant, the image including a visual representation of at least one plant element. An extractor module configured to extract one or more image portions from the color-normalized image wherein the extracted image portions relate to at least one plant element. A deep learning device for capturing a plurality of plant disease images and corresponding diagnosis results as learning data, creating and holding image feature data on plant diseases. The image processing unit obtains the segmented plant image, the image processing unit further filters noises in the segmented plant image first, and according to a hue transform technique, analyzes the filtered image to obtain at least one piece of suspected region image. Crossing a first clubroot-resistant canola plant comprising at least one clubroot resistance quantitative trait locus linked to a polymorphic marker selected from the group consisting of a second canola plant to produce a population of canola plants.

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