



Student project in object recognition

Automated flower identification



Background. Biological species provide the best example of a well-defined hierarchical taxonomy of objects and are therefore often used as textbook examples in hierarchical object recognition. However, automated systems for species recognition based on images are lacking. In this project, we will explore the possibilities for image based recognition of a limited subgroup of flowering plants, such as the examples from the Rosaceae family shown above. In the long run, a possible goal is to turn the system into a smartphone app.

Project. For the recognition system, the following approaches will be pursued: (i) detection and segmentation of flowers and petals by symmetry operators, (ii) definition of relevant features, (iii) machine learning algorithms, (iv) comparison of given images with an indexed image library, and (v) morphable models of flowers and flower parts for specific plant families.

Methods. Image processing, machine learning, object recognition

Supervisors/Contact.

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References.

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