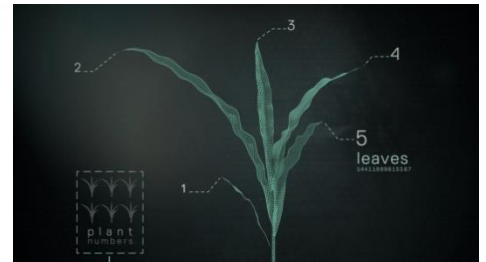
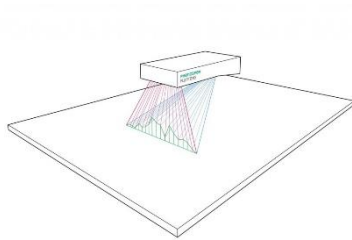


MASTER THESIS

Automatic Lettuce harvesting



OBJECTIVES

- Develop an algorithm for the online inference of the optimal cutting height based on 3D point clouds
- Validate that algorithm and improve it on real recorded data from our field trials (possible customer visit)

REQUIREMENTS

- Matlab prototyping
- C++
- Computer Vision I & II
- Interested / expertise in Machine Learning
- Familiar with Linux distributions
- Fluent in English (Dutch or German not required)

DESCRIPTION

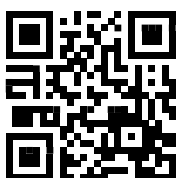
The harvesting process of high value crops such as lettuce or broccoli is still done by hand. Large farmers in Europe and the US employ hundreds of people to cut their plants in the field. As it is becoming increasingly difficult to find enough people for this hard and tedious job, it is becoming a severe bottleneck and risk for farmers.

In a project with one of the largest farmers for fresh lettuce in the US, Phenospex is developing an automatic cutting robot to cut lettuce plants in the field. A 3D sensor from Phenospex is used to detect the location of the plant and to derive descriptive parameters from the plant's 3D model. An important step afterwards is to determine an optimal cutting height for the lettuce plant. The quality of the product strongly depends on this cutting height.

In this project, we want to use the parameters generated from PlantEye and use a machine learning approach to calculate an optimal cutting height. As a training dataset, the machine operator can evaluate the optimal cutting height for each plant and store it together with the plant parameters from PlantEye.

Part of this project should be done at Phenospex in Heerlen (up to 4 weeks). During this stay Phenospex will arrange accommodation and cover travel costs in Maastricht, a young, vibrant and international city in the triangle of Belgium, Germany and the Netherlands. Our office is located 20 minutes away from Maastricht and easily reachable by train or car from there.

CONTACT



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PHENOSPEx

Smart Technologies for Plant Analysis



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