Bachelor or Master thesis BIOVIT 2021/22

Topic/Title (Norwegian) Digital identifisering av ugras

Topic/Title (English) Digital identification of weeds

Please also take a look at the [FarmBot | Open-Source CNC Farming]

Summary

A sustainable arena within Smart Farming and green innovation is established at NMBU (2021-24), https://www.nmbu.no/prosjekter/node/42982

and https://eduumb.sharepoint.com/sites/mittnmbu_org_realtek/SitePages/Presentasjon-om-smart-farming%2C-allm%C3%B8te-18.08.aspx for a presentation about the platform. Please also note the information about the Green Innovation Student LAB included in the platform.

A device called farmbot, see picture, is purchased, and the idea (among others) is to seed different types of weed in this bed and use advanced imaging technology in order to recognize the different weeds at different growth stages. This is an interdisciplinary task, and the thesis is thus suited for students working together from different faculties, and in particular from BIOVIT and REALTEK. There are also possible to adapt the thesis due to the wishes of the students, but the idea is that several thesis projects may develop this weed detection system step by step and at the end be used for application in the field, e.g. by the use of field robots and mechanically weeding in different crops like eg. vegetables or other row crops.

Subject area (keywords)

Weed detection, imaging, smart farming, data analysis, sensors, pesticide mitigation

Bachelor or Master thesis BIOVIT 2021/22

Language thesis (Norwegian and/or English)

Norwegain or English

Bachelor or Master thesis

Master thesis is recommended due to cooperation with REALTEK students (5 years master)

Credits

30

Project/company

Included in the Smart Farming consortium

Please contact

Professor Nils Bjugstad, REALTEK

Co-supervisors professor Ingunn Burud, REALTEK (imaging), professor Morten Lillemo BIOVIT (plant science, PhD-student Robert Braunschweig, REALTEK

The topic is interdisciplinary and includes imaging, GIS, data science, agricultural engineering in addition to plant, soil and fertilizer science. Thus, it is a requirement that at least one student joins from REALTEK (imaging, data science, geomatics, engineering, robotics). The Smart Farming platform may support the students by some funding highlighting the cooperation of students from different faculties like BIOVIT, MINA, REALTEK and others.