Master's Thesis: Computer Vision-Based Box Detection and Localization on Shelfs

Linde Material Handling GmbH is part of the Operating Unit KION Industrial Trucks and Services (KION ITS) EMEA - a strong international brand alliance between Linde Material Handling, STILL and Baoli. In the following master's thesis you gain exciting insights into the world of Linde Material Handling.

Order Picking Trolley's are used in manufacturing warehouses to pick the necessary goods for further processing. In future, this process is to be automated by a mobile robot. To achieve this goal a first step is to implement a computer vision-based detection and localization algorithm of the boxes on the shelfs.

Task Description:

- Different types of boxes are detected in various dimensions, positions, weights, and poses on different load carriers (picking trolleys with straight and inclined planes or different dimensions) based on features and the 6D pose is derived with an accuracy of +/- 1mm to 2mm
- Implementation of ML/DL algorithms for preselection of the search area
- Implementation of classical computer vision approaches for precise 6D pose estimation

Your Profile:

- Informatics, Computer Science, Electrical Engineering, Robotics or similar degree programs.
- Good programming skills
- Optional: Knowledge in computer vision
- Ability to work in a team, strong communication skills and an independent way of working
- Very good analytical and conceptual thinking skills, good procedural understanding

Your Benefits

- Fair remuneration (1,200 euros / month)
- 35-hour week with flexible working hours
- 20 days holiday per year
- Mobility allowance
- Linde Material Handling - Accompanying program
- Work Location: Deutsches Museum München

Application

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