

Masterarbeit

3D Object Detection in Logistic Environment

Scope:

As far as we know, there is no open-source dataset for object detection in logistic environment. So, we have collected a small parcel dataset in our institute, and manually annotation them. In the next step, we aim to evaluate existing deep learning based 3D object detection methods on this dataset. The research topic is, how to detect logistic objects from images?

3D Parcel Dataset in IFL

30 parcels with different size
5 different backgrounds
1135 RGB and depth images



Problems:

- 1, what are typical items in logistic environment?
- 2, how to evaluate object detection methods on our own dataset?
- 3, how to improve the dataset or the existing methods?

Tasks:

- 1, research on camera-based object detection methods.
- 2, evaluate existing object detection methods on parcel dataset.
- 3, improve the dataset and existing object detection methods.

Requirements:

Good knowledge of robotics, computer vision, good programming skills in Python and deep learning network under Linux, previous experience with ROS is desirable. English is desirable.

Offer:

An interesting research topic in Robotics. This topic is a part of my dissertation topics, and we can work and discuss together.

Inquiries:

Please send us an e-mail with a curriculum vitae and a current overview of your grades.

Forschungsbereich:

Robotik und Assistenzsysteme

Ausrichtung:

- ☒ Experimentell
- ☒ Theoretisch
- ☐ Praktisch
- ☒ Deep Learning
- ☐ Konstruktion (CAD)
- ☐ Sicherheitstechnik
- ☐ Graphische Gestaltung
- ☒ Robotik
- ☐ Mensch-Maschine-Interaktion

Studiengang:

- ☒ Maschinenbau
- ☒ Mechatronik
- ☐ Physik
- ☐ Elektrotechnik
- ☐ Informatik
- ☐ Informationswirtschaft
- ☐ Wirtschaftsingenieurwesen

Beginn: ab sofort

Kontakt:

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Bild: