Machine learning for autonomous programming of a robot-based inspection system (IDP/HiWi)

Motivation
Within a research project at the iwb, car body parts are measured with the help of a robot-based inspection system. The programming of the robot represents a complex and time-consuming work step, which should therefore be automated using novel approaches based on machine learning algorithms.

Milestones
Within the scope of the work different approaches from the field of machine learning (NN, Bayesian Networks, SVM) will be evaluated and further developed for the programming of an industrial robot. To implement the concept, a simulation environment based on ROS is available. Subsequently, the developed approaches will be verified on the real system and a car door.

Requirements
- Interest in fields of industrial robotics, AI and computer vision
- Good programming skills in C++, C# or Python
- ROS and Unity knowledge of advantage
- Independent working, initiative and creativity

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