Abstract – Julian Katzenschwanz – Mr16b034

Image recognition and robot control are often used together in automation - for example, when chocolates are packaged with the help of a camera system and a delta robot. In education, however, image recognition is often done only virtually, without solving practical problems. An educational demonstrator has to be provided to reinforce through practical exercises what has been learned virtually before. It has to be compact and reliable to be justifiable as a suitable learning tool for academic faculties. Likewise, a high utilization should be sought to increase the systems relevancy. This work uses an online demonstrator to reach more users. A cartesian robot in gantry design is built and equipped with a camera and a magnet as the end effector. The robot is controlled online via widely used G-code. The system is thus able to internationally deliver footage of the puzzle for image recognition via the camera. After localizing the puzzle pieces in an image recognition exercise, the robot can be used to test the applied methods as a practical example to solve puzzles. The robot is capable of its designed task, but the whole process still has to be improved to function as an operational demonstrator. Future work could be done on improvements to the camera system, development of different puzzles, writing an instruction manual and educational exercises.