Deep learning-based Machine Vision for the Task of Grasping Chemical Hardware

Машинное зрение на основе глубокого обучения для захвата химического оборудования

Coursework

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Current Progress

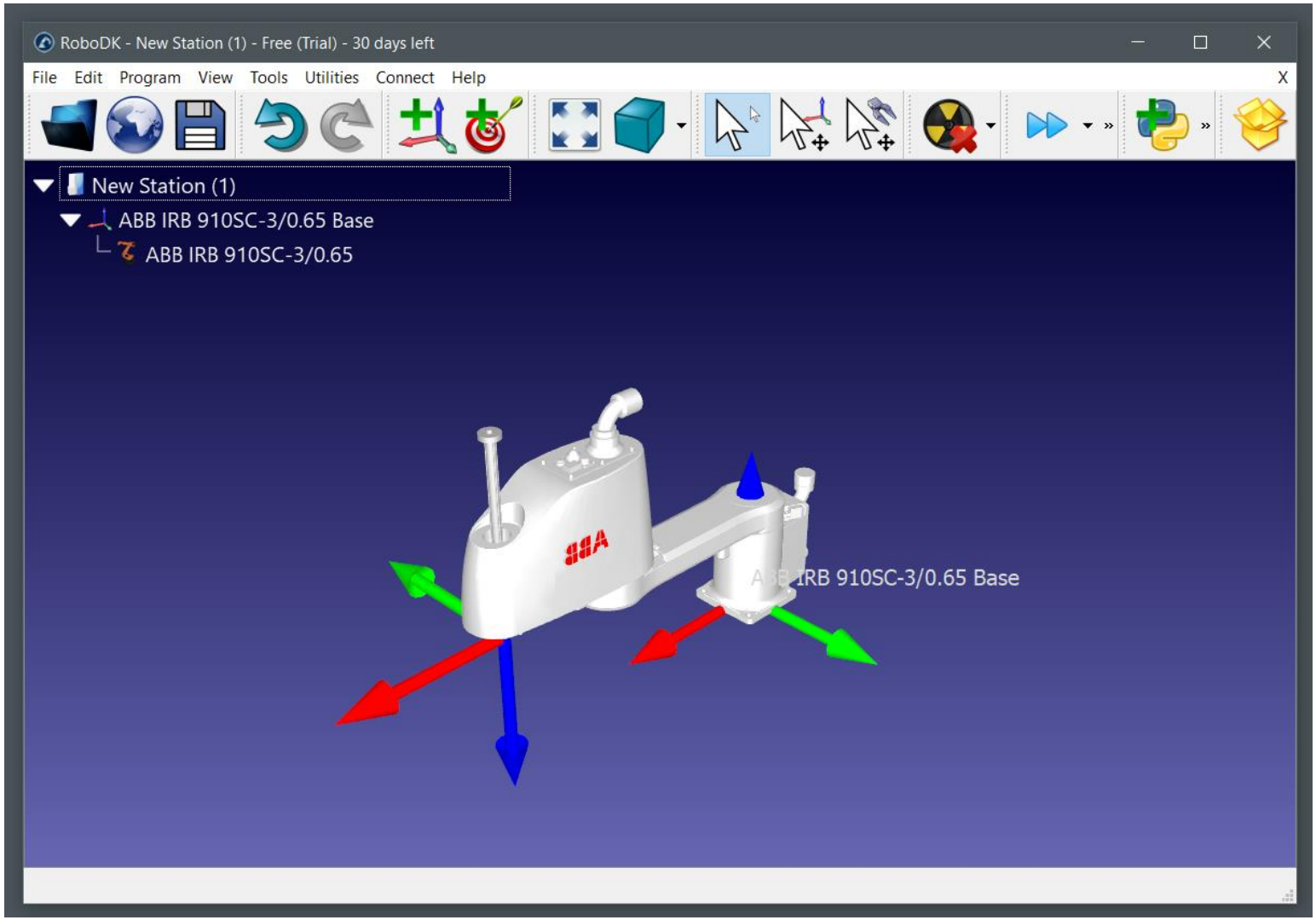
- Object annotation was done
- Study possibility in coding the object detection with MMDectection on GoogleColab
- Assess and select a robot simulator for implementing the algorithm

Robot Simulator

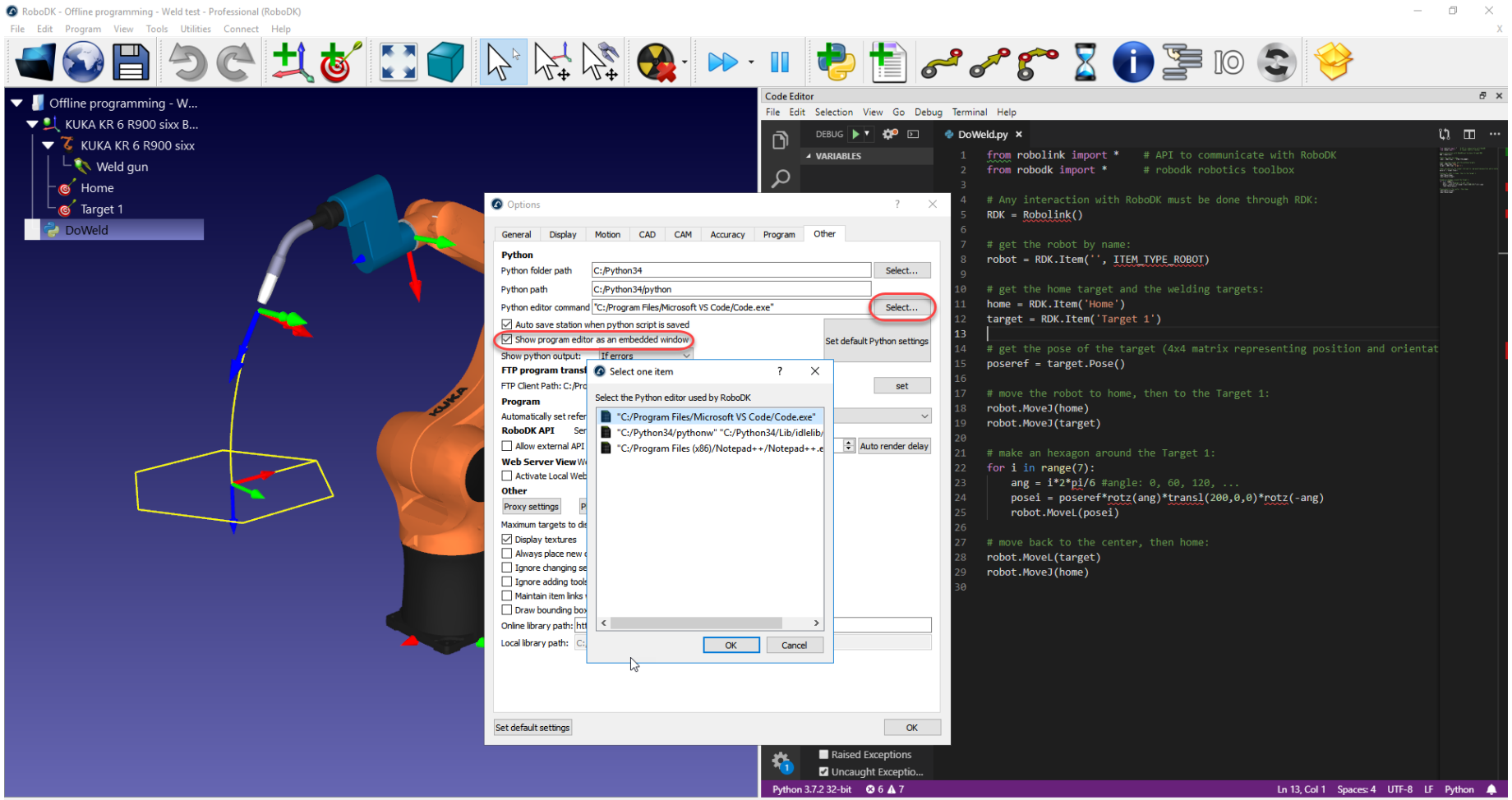
- RoboDK https://robodk.com/
  - Pros: 4-axis SCARA is available
  - Cons: 30-days free trial, limited to 50 lines of code
- Cyberbotics https://cyberbotics.com/
  - Pros: Open source
  - Cons: 4-axis SCARA is not available
- Code in Python
  - Pros: Numerous tutorials on internet
  - Cons: 3D-simulated robot is not available

Original Implementation

RoboDK


RoboDK - New Station (1) - Free (Trial) - 30 days left
File Edit Program View Tools Utilities Connect Help
New Station (1)
ABB IRB 910SC-3/0.65 Base
ABB IRB 910SC-3/0.65

RoboDK



https://robodk.com/doc/en/PythonAPI/intro.html#windows