Exercise Setup

376.054 Machine Vision and Cognitive Robotics
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1 Introduction

This document will explain how to setup your computer for the exercises. We recommend you using Anaconda to create a virtual environment which will be explained in Section 2. In Section 3 we will give a short introduction to our preferred cross-platform IDE PyCharm.

2 Conda

Conda is a package management system and environment management system. It enables installing required libraries in a separate virtual environment. This way, it won't interfere with any installed existing environments. You can either install the full fletched Anaconda or its smaller variant Miniconda. For our use-case Miniconda is sufficient. You can use either the GUI or command line version for Python 3. Installation instructions for Windows, macOS and Linux can be found here.

After installing conda you can use the environment file to setup the environment by calling

```
conda env create -f /path/to/mvcr_environment.yml
```

You can check if the environment was installed successfully by calling

```
conda env list
```

Activate the environment by calling

```
conda activate mvcr
```

In this environment you should be able to execute the main file of the first exercise (replace the `path`):

```
python /path/to/exercise1/main.py
```

3 PyCharm

An integrated development environment (IDE) provides many advantages such as debugging, code completion, syntax highlighting, refactoring, etc. We suggest to use the cross-platform IDE PyCharm by JetBrains and provide you with a short introduction here. Of course, you can use any other IDE or text editor of your choice as well.

PyCharm is available in two variants, the free Community edition and a Professional edition. The Professional version offers more features and you are eligible to a free student license with your TU Wien email here. However, the Community edition is also sufficient for this course. Download the program here and follow the provided instructions to install it.

Start PyCharm and open the folder of the first exercise. To setup the correct Python interpreter, go to

`Preferences > Project:exercise1 > Project Interpreter`

Click the ⚙ symbol next to the Python Interpreter field. Press `Add` and choose Conda environment. In this panel, choose existing environment and enter the location of your interpreter. You can find the location by calling `which python` in your terminal with an activated environment (or `where.exe python` in Windows or `conda env list`). After these steps, you should be able to execute the `main.py` file by right clicking it in PyCharm and pressing Run.