

Exercise: First Steps with TensorFlow

1. Learning goal

TensorFlow is currently one of the most important Deep Learning libraries. We will often use it in the exercises in order to experiment with state-of-the-art object detection systems and related algorithms.

2. Install Tensorflow

Install TensorFlow using the Anaconda navigator.

3. Linear Regression with TensorFlow

A simple TensorFlow machine learning example is linear regression. In a Python script prepare random samples of 2D data points (x,y) that lie on a straight line in this 2D space. Then use TensorFlow to learn the parameters of the straight line. Finally, compare the estimated parameters (slope, intercept) with the real parameters.

4. Multi-Layer-Perceptrons

Download the following example that shows how to implement and train a MLP for a classification task:

<https://github.com/juebrauer/Solutions-Exercises-MultimodalSensorSystems/tree/master/MLP%20for%20Iris%20classification>

Try to understand which classification problem is solved here and how the code works.