Human-centered Assistive Robotics

Technische Universität München Prof. Dr.-Ing. Dongheui Lee

MACHINE LEARNING IN ROBOTICS

Assignment2 Instructions

• Submission.

Each student must work independently. Please upload a file called $Assignment2_Surname_ID.zip$ (where Surname is the surname of the student that submits the file and ID is the enrolment number) on moodle.

This file should contain:

- $-Assignment2_Surname.pdf$, a pdf file containing the solution to all the exercises (see below for further informations)
- The Matlab code in a subfolder called Code. Students can create any function that they consider necessary to solve the problems.

The submission deadline is on the 22nd August, 2019 at 11:59pm.

In case of questions, please contact

- thomas.eiband@tum.de (Exercises 1 and 2)
- alejandro.agostini@tum.de (Exercise 3)

Assignment2_Surname.pdf.

- Students need to provide a pdf file containing the solution to all the exercises. Students must clearly indicate in this file to which exercises and to which question the solutions refer to.
- For *Exercise*1 include the learned GMM parameters (priors, means, and covariance matrices).
- For Exercise2 include classification results, i.e. which sequences are classified as gesture1 and which sequences are classified as gesture2.
- For Exercise3 attach the outputs of WalkQLearning(s) and WalkPolicyIteration(s) for the asked initial states.
- For Exercise3 include the answer of questions regarding Policy Iteration and Q-learning.

Subfolder Code.

- For *Exercise*1 provide the matlab code for the E-M algorithm.
- For Exercise2 provide the matlab code used for classification.
- For Exercise3 provide the matlab functions WalkPolicyIteration, SimulateRobot and WalkQLearning.