## Lehrstuhl für STEUERUNGS-UND REGELUNGSTECHNIK

Technische Universität München Prof. Dongheui Lee

# MACHINE LEARNING IN ROBOTICS

Assignment2 Instructions

#### Submission.

Each student must work independently. Please send by e-mail a file called  $Assignment2\_Surname.zip$  (where Surname is the surname of the student that submits the file) to both the addresses:

- matteo.saveriano@tum.de
- affan.pervez@tum.de

#### 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 functions that they consider necessary to solve the problems.

The submission deadline is on the 13th August, 2015 at 11:59pm.

## 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.
- For Exercise2 include classification results, i.e. the numbers of train and the number of test sequences.
- 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 *Exercise*2 provide the matlab code used for classification.
- For Exercise3 provide the matlab functions WalkPolicyIteration, SimulateRobot and WalkQLearning.

#### Notes.

For Exercise3 please don't attach the provided images i.e. step1.png-step16.png in your submission.