

# Description of Matlab Files For Practicum

June 6, 2022

- **main.m**: The main matlab script file where all code exists.
- **simple\_model.slx**: Simulink diagram for simple model for inverted pendulum (Assignment 2)
- **realistic\_model.slx**: Simulink diagram for more realistic model of inverted pendulum (Assignment 3).
- **control\_model.slx**: Simulink diagram for we used for communicating with the physical setup of the inverted pendulum (Assignment 4).
- **plot\_assignment \* .m**: Matlab scripts for plotting stuff from assignment 2, 3 and 4.
- **DisturbanceControl.mat**: The Control signals on the real setup when lifting one end of the track.
- **DisturbanceStateData.mat**: The State Data signals on the real setup when lifting one end of the track.
- **KickControl.mat**: The Control signals on the real setup when kicking the rod a little.
- **KickStateData.mat**: The State Data signals on the real setup when kicking the rod a little.
- **measurement.mat**: The used measurement noise used in **realistic\_model.slx**.
- **StepChangeControl.mat**: The Control signals on the real setup when performing a step change.
- **StepChangeStateData.mat**: The State Data signals on the real setup when performing a step change.
- **StepChangeSetPoints.mat**: Contains the wanted set points for the real setup.
- **StepChangeSetPoints.mat**: The data from the realistic\_model used for performance comparison.

- **wc \* Control.mat:** The Control signals on the real setup on varying values of  $wc$  (The cut off frequency for the low pass filter)
- **wc \* StateData.mat:** The State Data signals on the real setup on varying values of  $wc$  (The cut off frequency for the low pass filter)