Description:

In this lab, we will illustrate the use of multiple linear regression for calibrating robot control. In addition to reviewing the concepts in the multiple linear regression demo, you will see how to use multiple linear regression for time series data -- an important concept in dynamical systems such as robotics.

You're provided with two excel sheets. Each of them containing features collected by TU Dortmund's from their Multiple Link Robot Arms Project. The feature space contains -in order- the time steps, three joint angles, three joint velocities, three motor currents, four strain gauge measurements, and three joint accelerations.

In this lab, you're required to predict I2 given the rest of the features given in the csv files.

You're provided with two csv files, exp1.csv and exp2.csv. The first is used for training and the latter is used for test.

Deliverables:

You're expected to deliver two zip files. It should contain both a Jupyter notebook file, and an html file exported from the notebook.

Both the notebook and the exported html file should contain the code which is run in order. That is, each code cell should be run in order, and this should be shown in both files.

Be prepared that the notebook may be run. So, make sure everything is put in the correct place and the repeatability of you code can be achieved.

Deadlines:

November 2^{nd} 2021 - 11:59 PM.