Final Project Topic

Learning dynamical systems from data: Koopman

Project Description

After studying the Koopman operator framework [Budišic et al., 2012, Williams et al., 2015a, Williams et al., 2015b, Li et al., 2017, Mauroy and Goncalves, 2017, Dietrich et al., 2019] and our team will implement the Extended Dynamic Mode Decomposition in [Williams et al., 2015a].

Task1 Description of the Koopman operator.

Task2 First implementation of the EDMD algorithm.

Task3 Tests on an example in the paper by Williams et al.

Task4 Tests on a simple example in crowd dynamics (given by the instructor).

Task5 Discussion of the results.