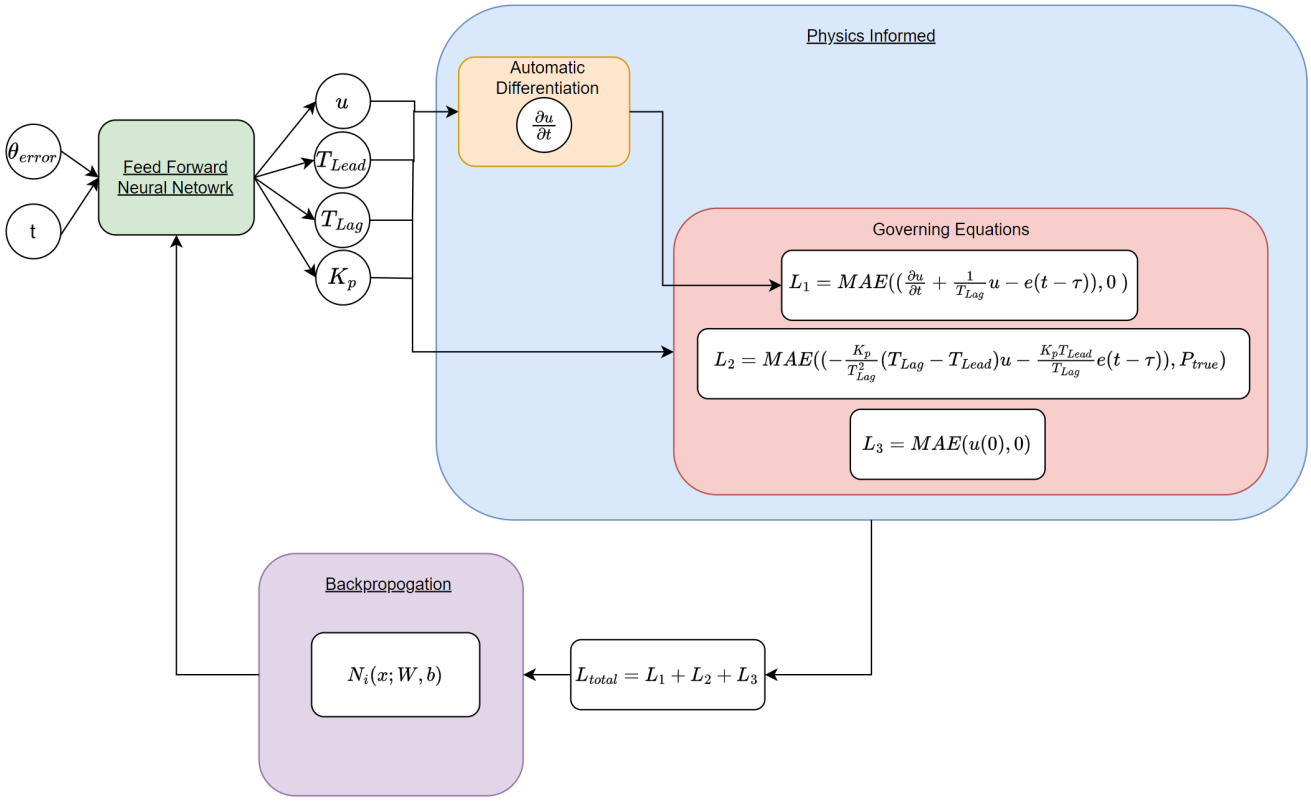
Google Colab Code 2 Notes

Code 2 link: https://colab.research.google.com/drive/1V5hBUzJvvx4_RaBOnbfxmxqhH9LIHPPV?usp=sharing

Intro: Uses same Pilot equations as in code 1.

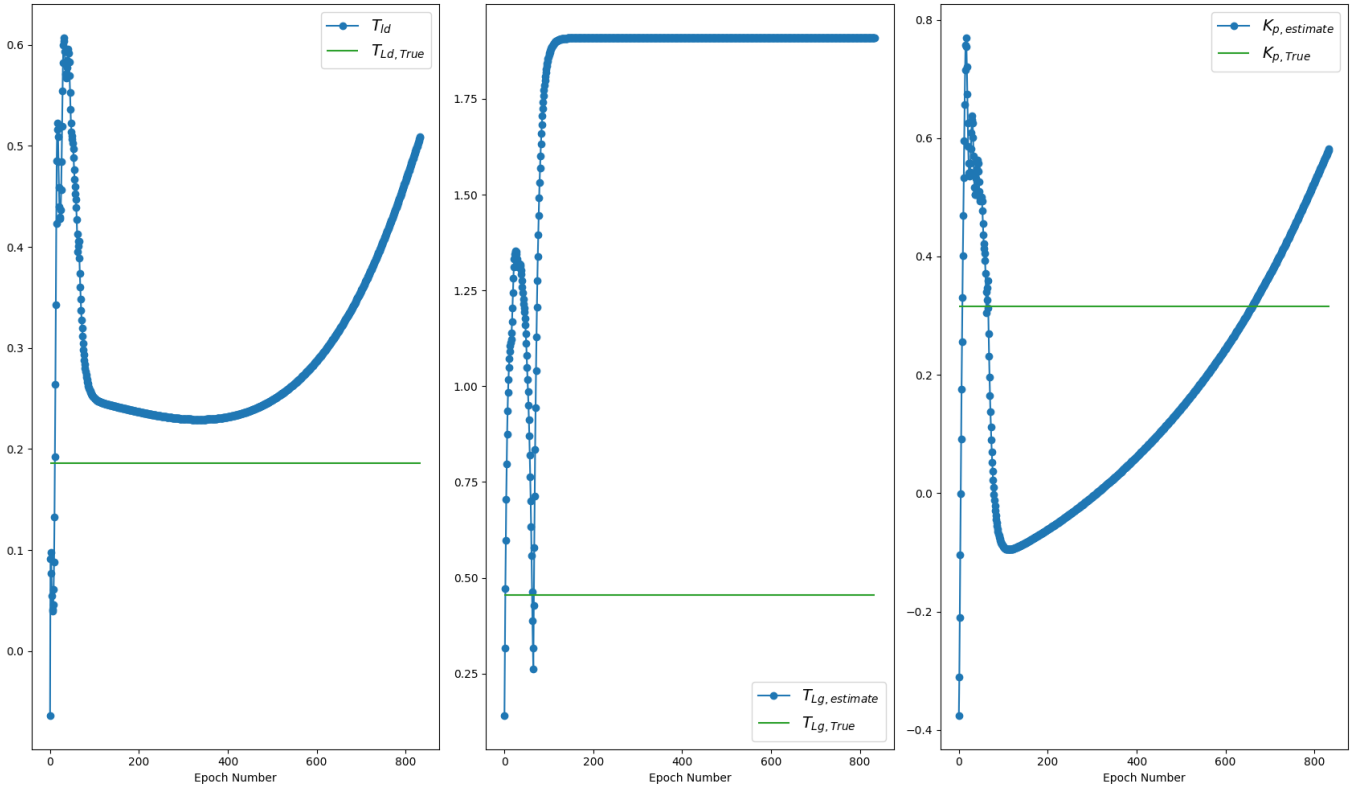
Architecture: Slightly different than in code 1. In code 1 we found that having the parameters as part of the NN does not allow for them to estimate multiple pilots but only the one it was trained on. Thus we changed some things.

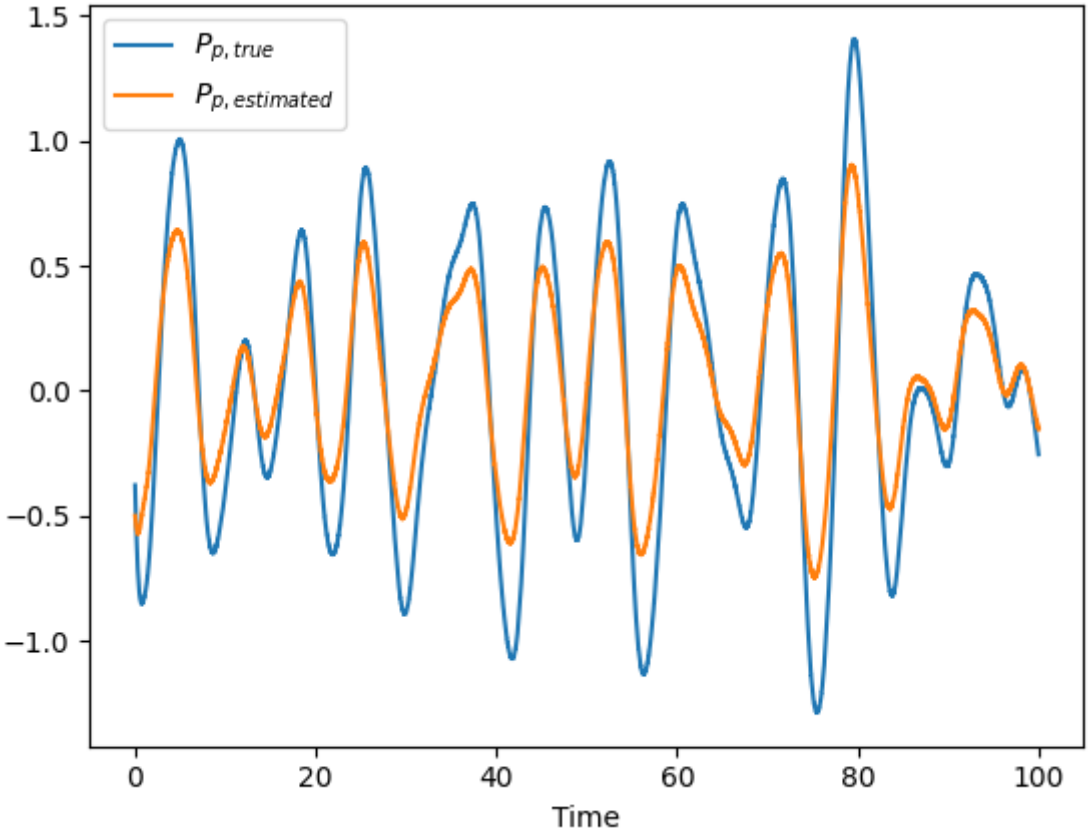


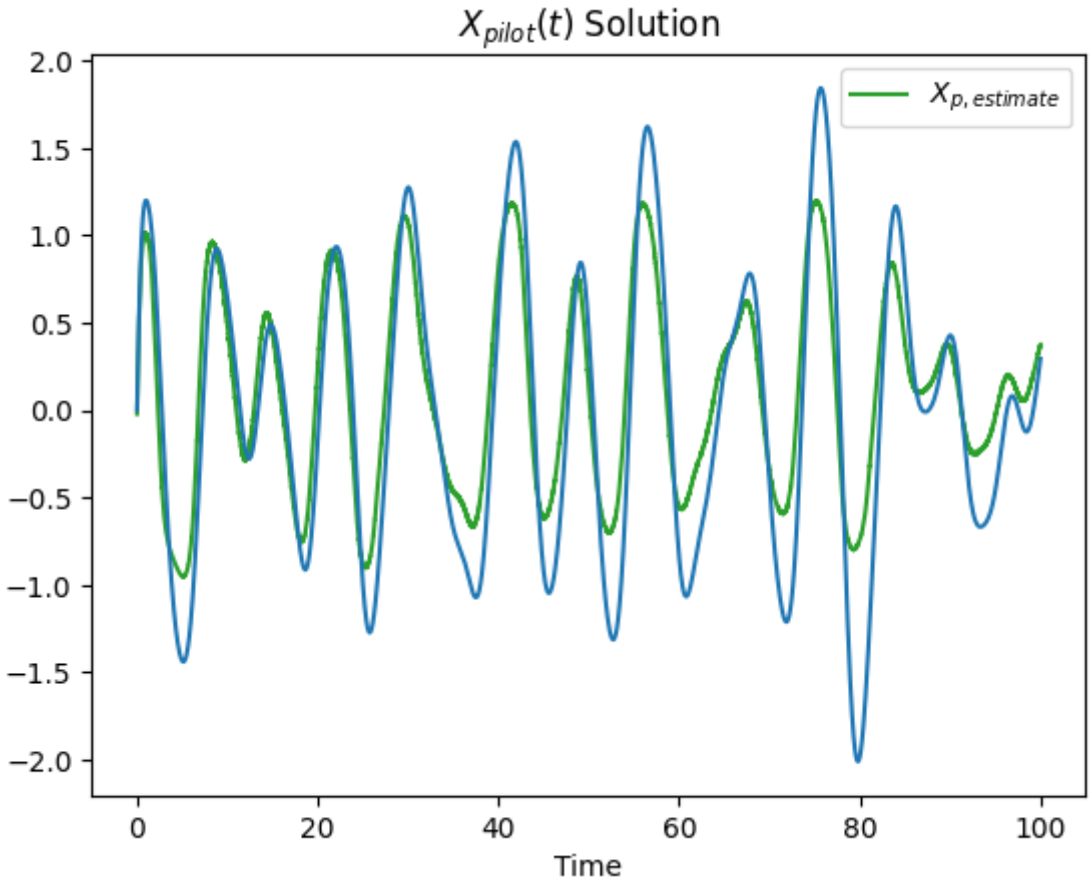
The main difference is that now the output size instead of being 1 is now 4 where the pilot parameters are now a part of the output. The architecture of the network used is 2 hidden layers of 64 and 128 neurons respectively with Tanh() activation functions, Adam optimizer of learning rate of 0.0001, and 801 epochs (started to run into Colab ram issues for more epochs?? idk why).

Problem formulation: the equations for the loss function are the same as in code 1

Results: From training and testing on 1 case







Need to rerun the code to see the exact error analysis chart