

**EE 399 SPRING QUATER 2023**

Instructor: **J. Nathan Kutz**

**HOMEWORK #5:**

**DUE: Midnight on 5/15 (Extra credit if turned in by 5/12)**

For the Lorenz equations (code given out previously in class emails), consider the following.

1. Train a NN to advance the solution from  $t$  to  $t + \Delta t$  for  $\rho = 10, 28$  and  $40$ . Now see how well your NN works for future state prediction for  $\rho = 17$  and  $\rho = 35$ .
2. Compare feed-forward, LSTM, RNN and Echo State Networks for forecasting the dynamics.