ANNs and BMS

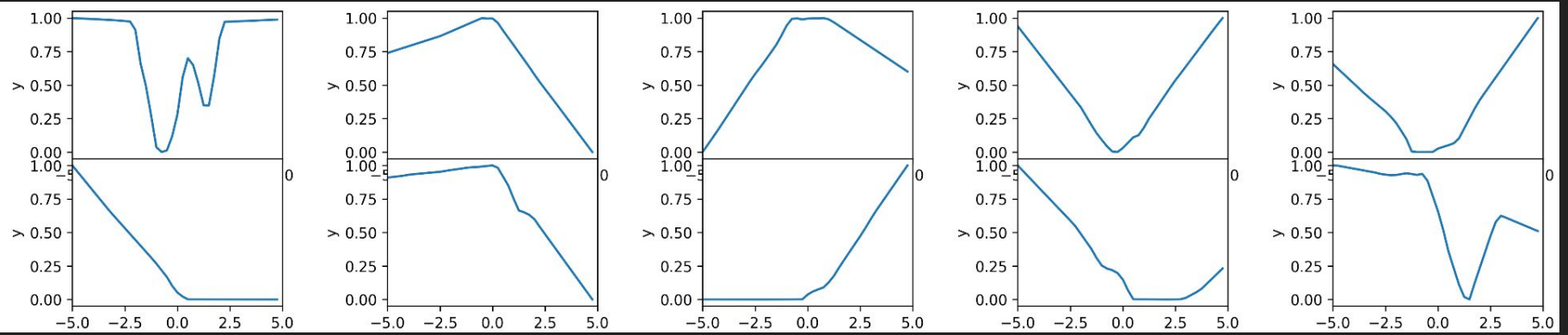
3/5/2024

ANNs and BMS

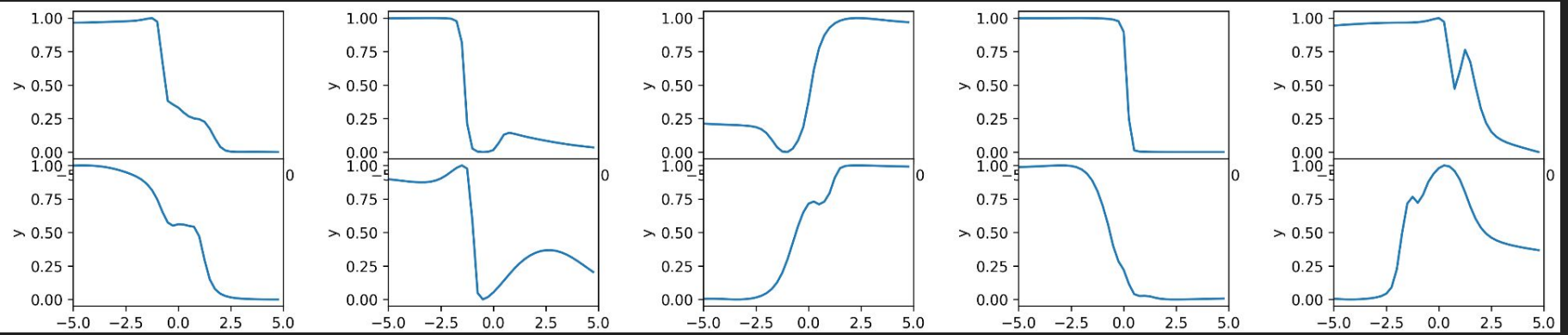
Input Layer Size: 2
Number of layers: 5
Layer Size: 5

Generate 10 1d functions with activation functions: 1) Leaky ReLU and 2) tanh
x=[-5,5] in intervals of 0.25 -> 40 data points in total

Leaky ReLU

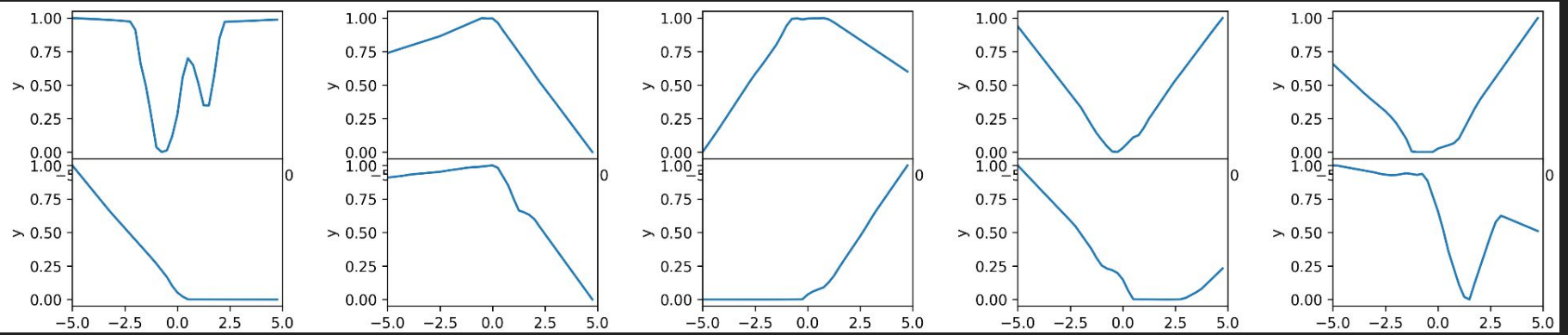


tanh

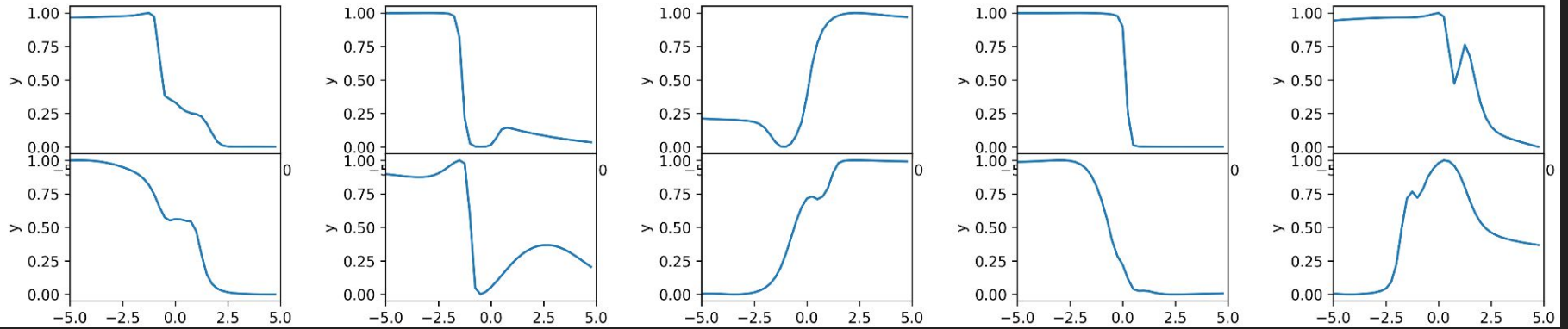


Leaky ReLU

Take the first five functions (first row) and train them with neural networks



tanh



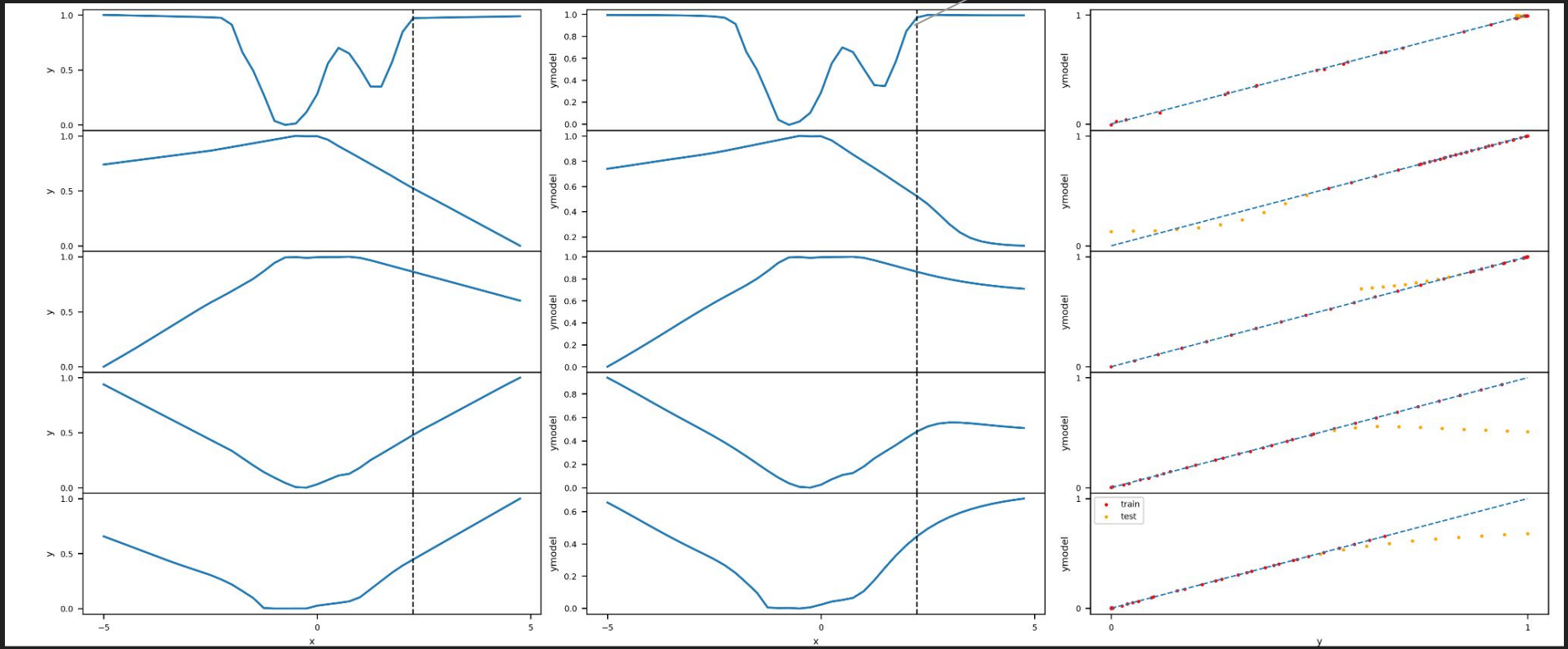
Train functions with neural networks

Input Layer Size: 1
Number of layers: 5
Layer size: 10

Train with Levenberg–Marquardt algorithm

Train with 30 points, test on the remaining 10

Results on Leaky ReLU



Function generated from ANN

Model generated from tanh neural network with LM algorithm

Actual data vs model data.

Results on tanh