

For the same training data, the return value of calc error is 4.55 in the HW4. While the return values of calc error in the HW5 as follow:

	DTree SetTrainTestSplitRatio 0.8	2 Hidden Layers, 3 Nodes per Layer	2 Hidden Layers, 4 Nodes per Layer	4 Hidden Layers, 3 Nodes per Layer	4 Hidden Layers, 6 Nodes per Layer
Calc Error	4.55	0.18	0.09	0.32	0.27

Figure 1 calc error of DTree and ANN

The best performance is ANN with 2 hidden layers and 6 nodes per hidden layer. The weights of nodes as follow:

-3.40, -0.61, -0.77, 1.05;
-3.30, -1.13, 1.68, 0.17;
2.55, -0.19, -1.07, 2.50;
-0.19, 0.46, -1.00, 0.57;
-0.20, 0.40, -0.98, 0.77;
1.79, -0.68, 3.44, 0.78;
-0.24, 0.53, -0.68, 0.57;
-0.06, 0.17, -0.35, 0.16;
-0.60, 0.40, -0.68, 0.31;
0.80, 0.00, 2.95, 2.10;
0.43, -0.31, 0.15, -0.51;

For DTree, different split results different calc error return. Detail as follow:

setTrainTestSplit	2	5	10	20
Calc Error	50	20	10	5