Sparse identification of nonlinear dynamics via SBL-DF

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1 Problem setup

We have the network in Figure 1. Our goal is to use input data $\boldsymbol{x}_1, \dots \boldsymbol{x}_S$ and associated output classes $y_1, \dots y_S$ to learn the weights $W^{(i)}, i = 1, \dots L-1$.

The training procedure is as follows:

1.

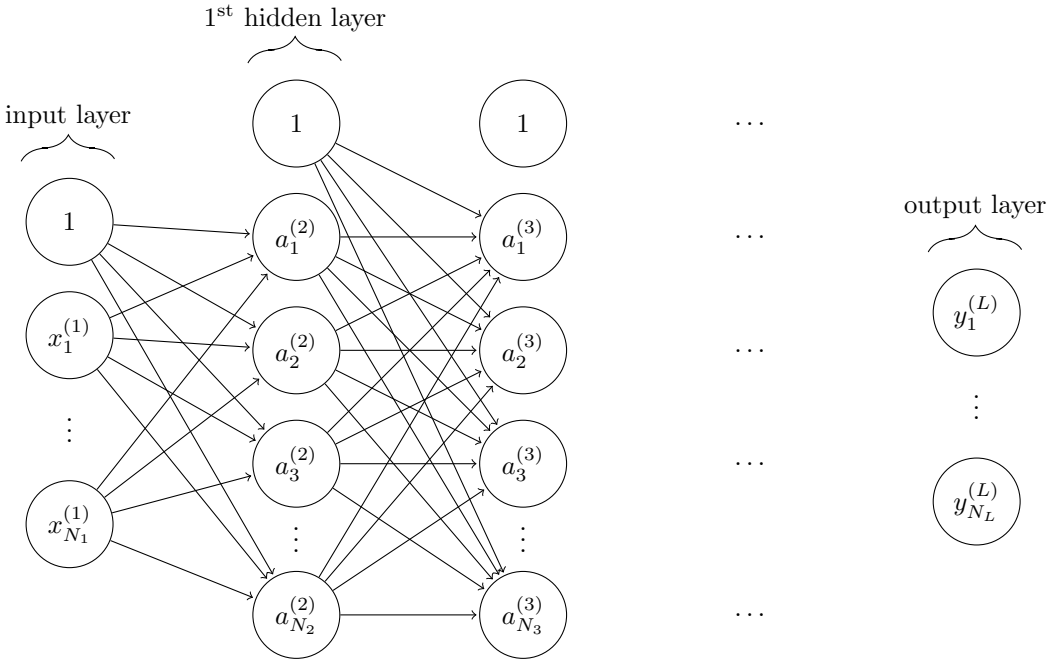

Figure 1: Graph of an L-layer network with $d = N_1$ input units and $c = N_L$ output units. The l^{th} hidden layer contains N_l hidden units and a bias.