Measurements of $H \to b\bar{b}$ decays and VH production

Thomas Charman

Supervisor: Dr. Jonathan Hays

Queen Mary University of London

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Chapter 1

Machine Learning Theory

1.1 Boosted Decision Trees

Decision trees have a structure as in figure 1.1.

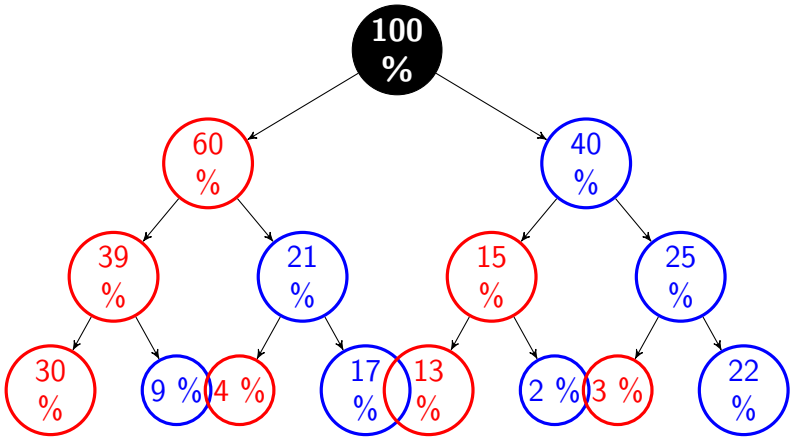

Figure 1.1: The structure of a decision tree.

1.2 Neural Networks

Neural networks have a structure as in figure 1.2.

1.3 Parametrised Neural Networks

Parametrised neural networks take extra inputs equal to the number of relevant parameters, as seen in figure 1.3.

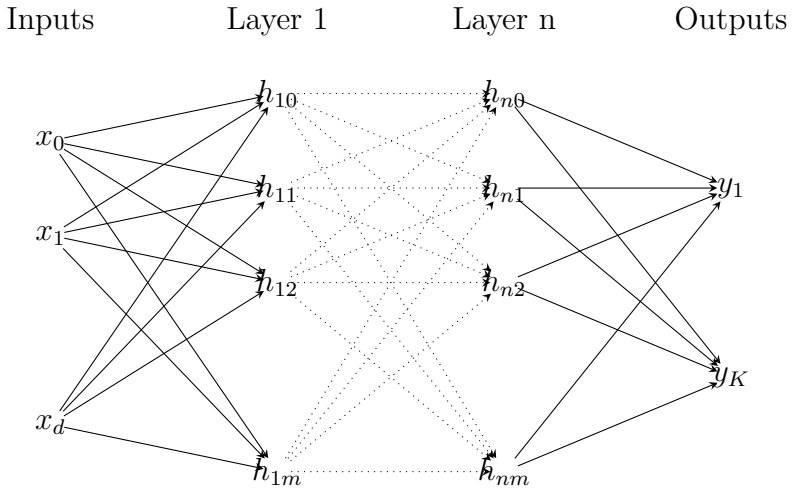

Figure 1.2: A more complex neural network containing an input layer of d nodes corresponding to data of dimensionality d, n hidden layers of m hidden units each h_{ij} (where i indexes hidden layer and j indexes a particular unit) and an output layer of K predictive units y_k.

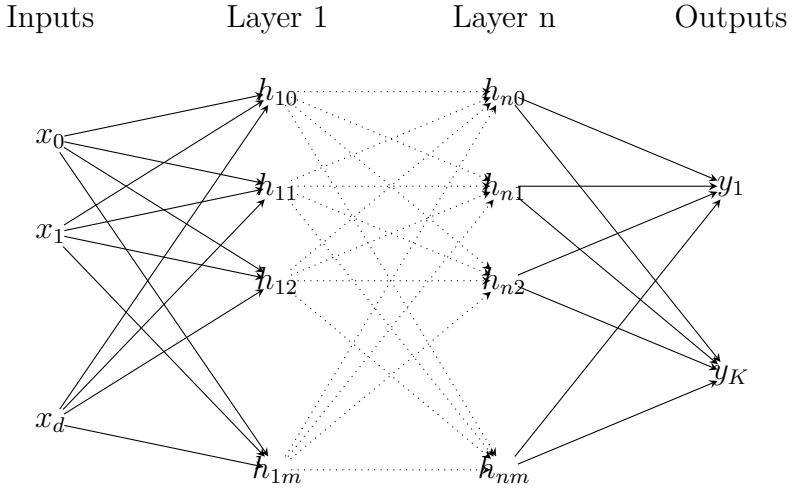

Figure 1.3: A more complex neural network containing an input layer of d nodes corresponding to data of dimensionality d, n hidden layers of m hidden units each h_{ij} (where i indexes hidden layer and j indexes a particular unit) and an output layer of K predictive units y_k.

Bibliography