

Figure 1: Hard (left) and soft (right) tree fits to sinusoidal data. Tree shows the split hierarchy and vertical bars show the split positions. Blue dots show the data, red curve shows the fit. Dashed red lines show the leaf response values for soft tree.

In all of the following figures, blue curves denote the response function up to the particular node of the tree, and red curves denote the sigmoid split function. A higher sigmoid value means a higher responsibility for the left subtree.

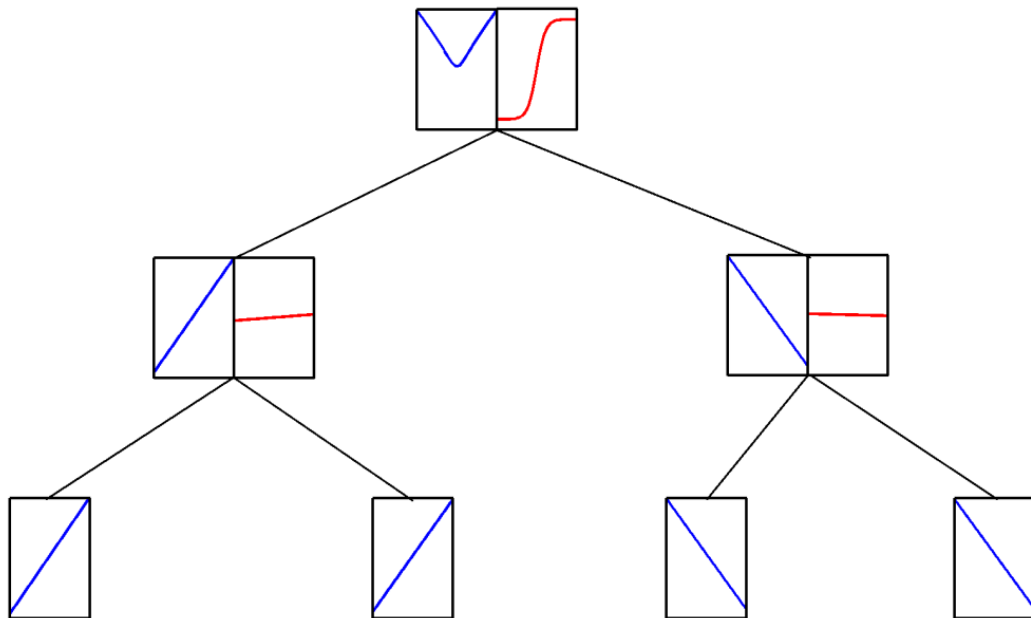


Figure 2: Soft regression tree with linear leaves, fit to the absolute value function.

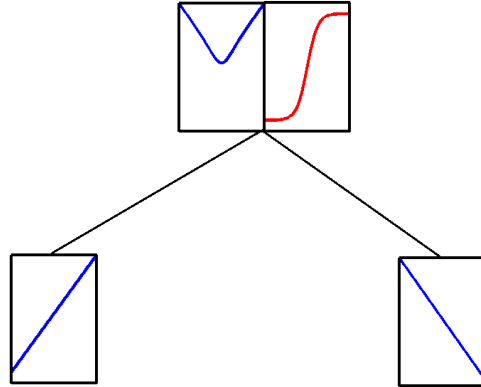


Figure 3: Soft regression tree with linear leaves, with a prepruning threshold of 0.1, fit to the absolute value function.

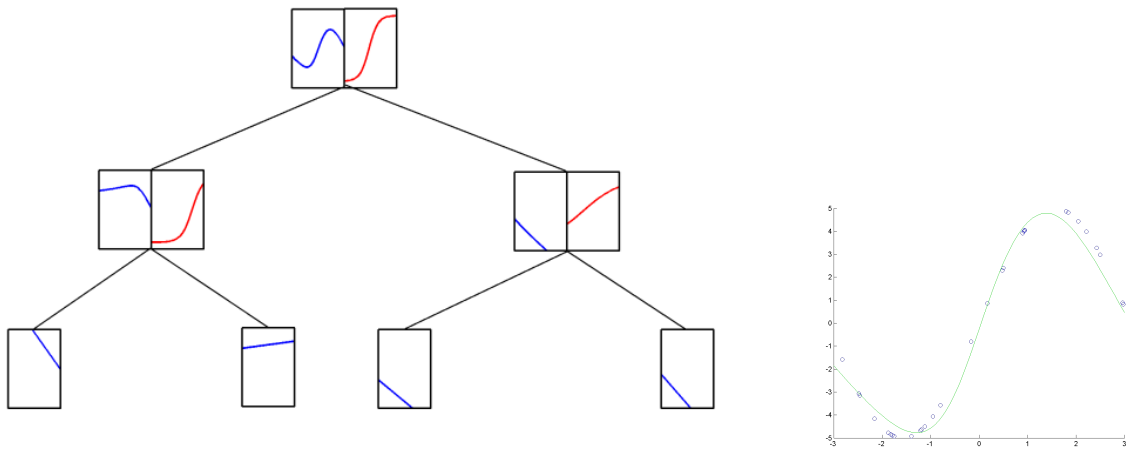


Figure 4: Soft regression tree with linear leaves, with a prepruning threshold of 0.1, fit to $\sin(x)$. Left: Tree structure. Right: Data and fit.

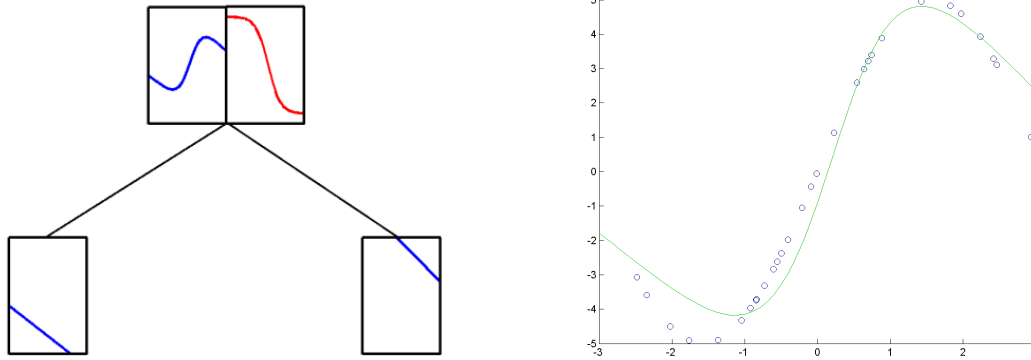


Figure 5: Soft regression tree with linear leaves, with a prepruning threshold of 0.2, fit to $\sin(x)$. Left: Tree structure. Right: Data and fit.

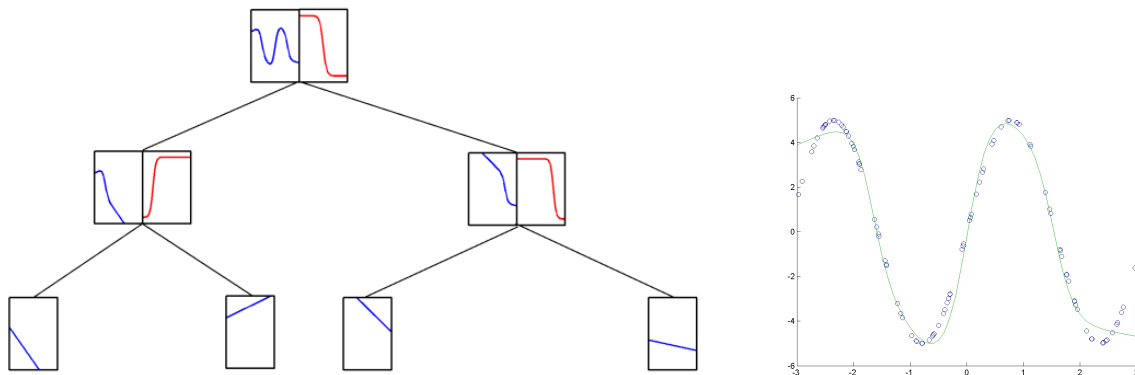


Figure 6: Soft regression tree with linear leaves, with a prepruning threshold of 0.2, fit to $\sin(2x)$. Left: Tree structure. Right: Data and fit.

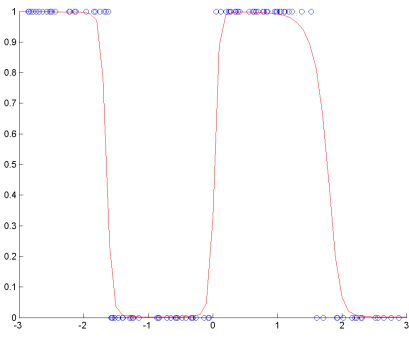
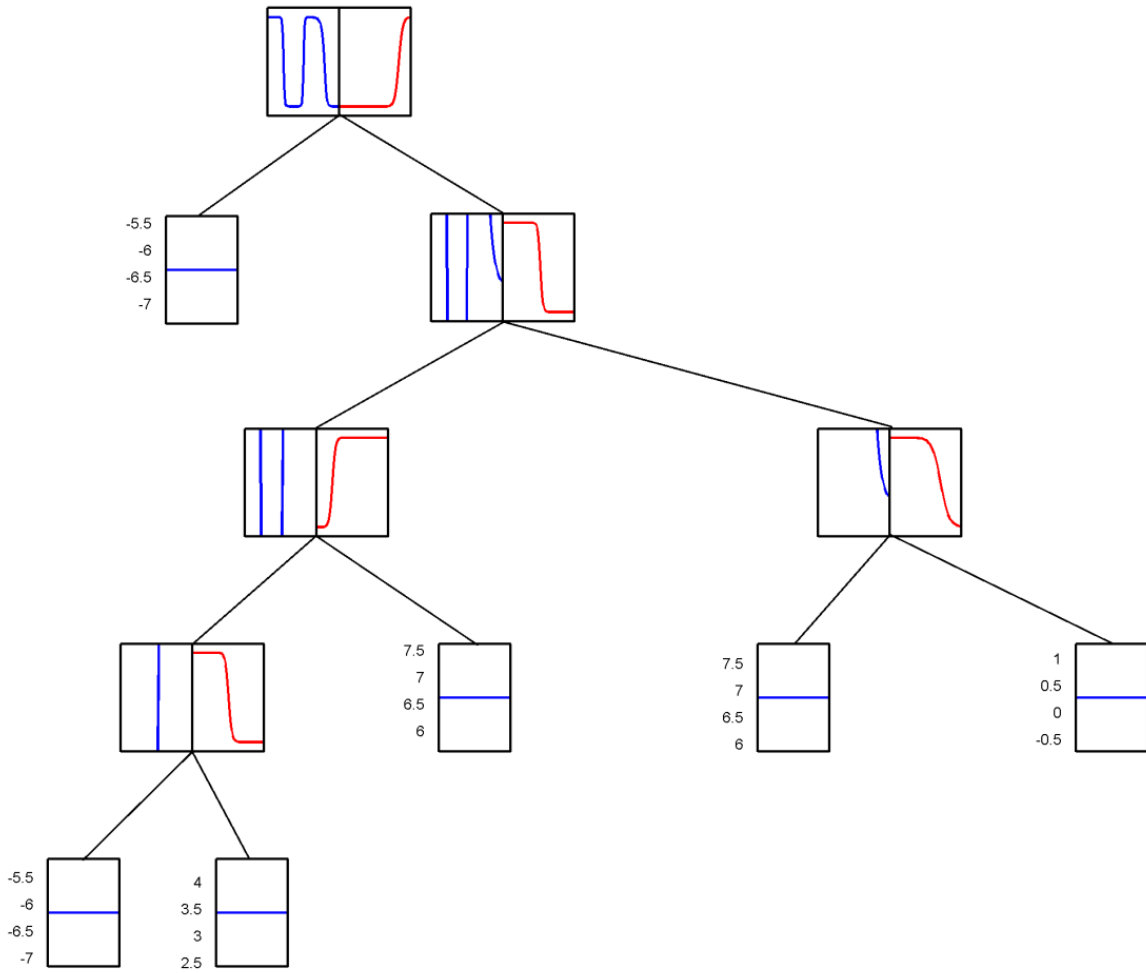


Figure 7: Soft classification tree with constant leaves, with a prepruning threshold of 0.2, fit to $\mathbb{1}(\sin(2x) > 0)$. Top: Tree structure. Bottom: Data and fit.