Neural Net Examples (JMP)

The following are mostly a set of screen shots concerning fits to a "Hat" data set (on a 9x9 grid). Here are plots for the noiseless and noisy raw data.
Here is a summary of a fit using a single hidden layer with 4 hidden nodes.
Here’s a summary of a fit using 2 hidden layers and 4 nodes per layer.
Here's a summary of a fit using a single hidden layer, but 8 nodes instead of just 4.
Here are examples of fits using "Gaussian process" models. (See Section 11.4 of the typed 602 notes for an exact version of what is represented here. Roughly speaking, these amount to using some radial basis functions and a kind of penalized fitting.)

Without a "nugget" (and thus producing exact interpolations):

With a "nugget" (thus not requiring exact interpolations).