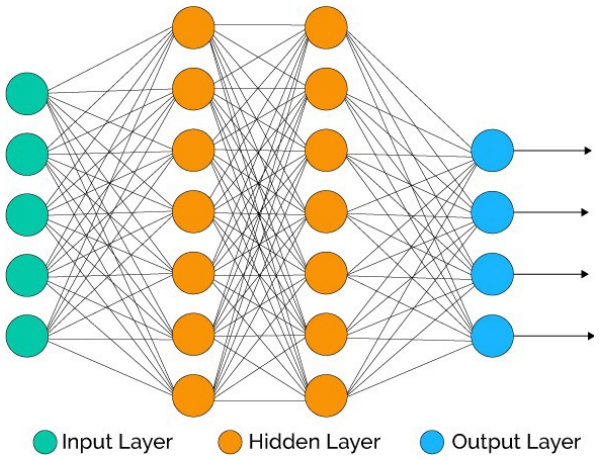
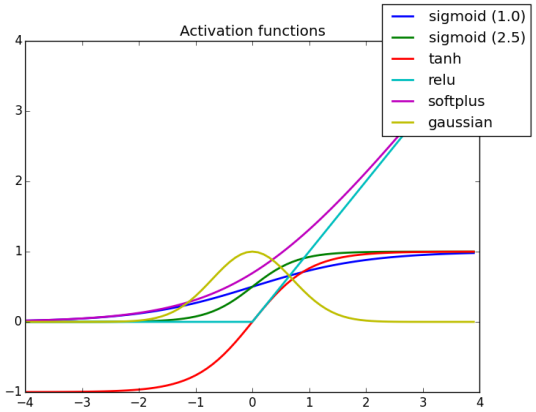
Feed-Forward

A very basic implementation of a feed-forward neural network from scratch. Each level applies a linear transformation to the neuron vector and adds a bias, finally pushing these results through an activation function (tanh). The final layer compares the result to the expected outcome, which we back-propagate to update the network.





Back-propagation was stochastic gradient descent and a decaying learning rate. Our network trains slowly but in linear time and constant space.

Image sources:

https://towardsdatascience.com/machine-learning-fundamentals-ii-neural-networks-f1e7b2cb3eef

http://orngunnarsson.blogspot.com/2017/04/activation-functions-tanh-vs-sigmoid.html