

XOR single-layer model theory

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1 Setup

- Where the weights W_{11} , W_{12} , W_{21} and W_{22} are together in an array W_1 , as the hidden weights
- Weights W_3 and W_4 are together in array W_2 , as the output weights
- Z_{11} and Z_{12} are together in an array Z_1 , and is the dot product of the W_1 array and the input array, summed with a bias
- A_1 is $\text{sigmoid}(Z_1)$
- Z_2 is the dot product of the W_2 array and A_1 , summed with a bias
- A_2 is $\text{sigmoid}(Z_2)$, which is the prediction Y

2 Forward Propagation

3 Back Propagation