

# Representing a neural network as a graphed set

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## Abstract

I studied how to implement general neural network weights. The overlapping intersection between sets has a high signal ratio. What I'm trying to say is that weight gain in conventional neural networks is what happens in the part of the intersection between sets



$$\textcircled{A} \rightarrow \textcircled{B} = A \in B$$

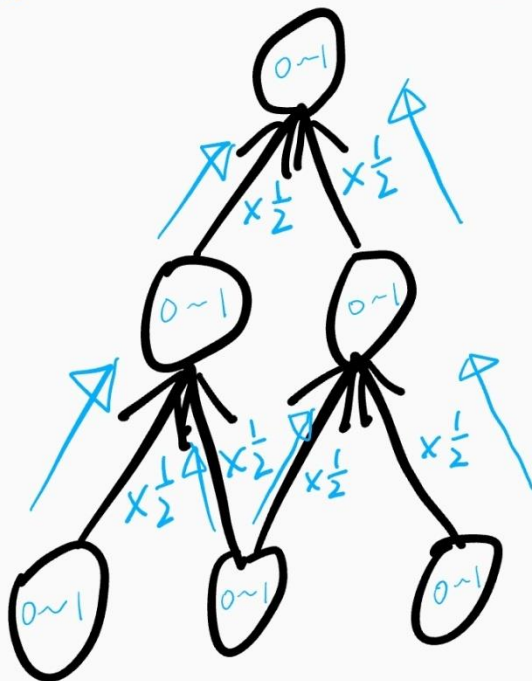
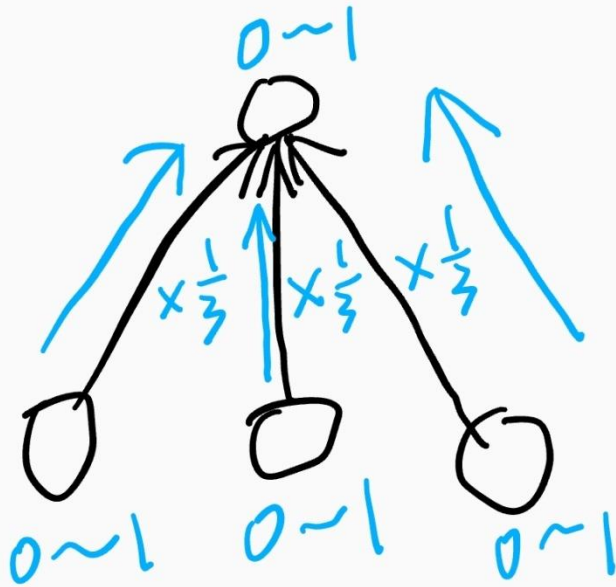


image.1

The upper part of Image 1 represents the set as a graph.

Elements in a set have an "and" relationship.

That is, elements lit together belong to a set.

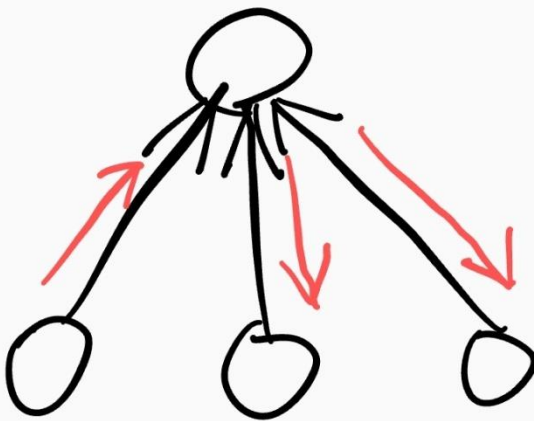
And in the middle picture of image 1, if an element has a signal between 0 and 1, it is multiplied with the weight of the arrow, and the weight is "1/number of elements in the set".

The last picture of Image 1 is an application.

In the last picture of Image 1, you can see that the element of the intersection of the two sets below occupies a large portion of the signal in the uppermost set.

This is an attempt to implement the weights in a known general neural network as the intersection of two sets.

What I'm trying to say is that the overlap between sets accounts for a high signal ratio.



$$\textcircled{A} \rightarrow \textcircled{B} = A \in B$$



image.2

Image 2 is different from the signal transmission direction of image 1.

When one of the elements in the set is turned on, the signal goes to the set at the top and then back to the other element at the bottom