Hebbian Learning – Neurons that fire together wire together

Hebb – idea of assemblies and learning

Clamp “1” onto desired output neuron, and force network to have weights (represent a transformation s.t. 1 is activated and all else is 0’s

Learning rate

Model for functional connectivity – weights between two neurons in two layers will be strengthened if both are positive / negative

Model

Hyperbolic tangent

Weight increase / decrease to infinity

Weights are representative

Normalizing Hebbian Model – Oja’s rule

Change in weight between to neurons = input activation \* output activation \* learning rate

Then subtract square of output activation and weight

Consider the unit sphere in 4-d (x,y,z,i)

D can be between +-1. When d = 1, we have point 0 in unit space

X + y + z squared = 1 – z squared

Can you create visualization of unit sphere in r4