AI lmao

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Data structure

The class `Layer` contains N nodes (n) and biases (b), as well as an $m \times n$ matrix (w). A neural network, here represented by the class `neuralNet`, is a linked list of l layers. It takes a vector `L` of length l as input, where the ith element L_i, corresponds to the number of neurons in layer i of the network

Gradient decent

The cost function, C, is dependent on the disiered output y given a output, an on the weights $W^{(i)} \in \mathbb{R}^{L_i \times L_{i-1}}$, biases $b^{(i)} \in \mathbb{R}^{L_i}$, and the activation $a^(i) \in \mathbb{R}^{L_i}$ of the neurons of each layer, where $i \in \{0, ..., l-1\}$, and $L_{-1} = L_0$ is the length of the input data. It is given by

$$C = \sum_{j-0}^{L_i - 1} \left(y_j - a_j^{(l-1)}\right)^2.$$