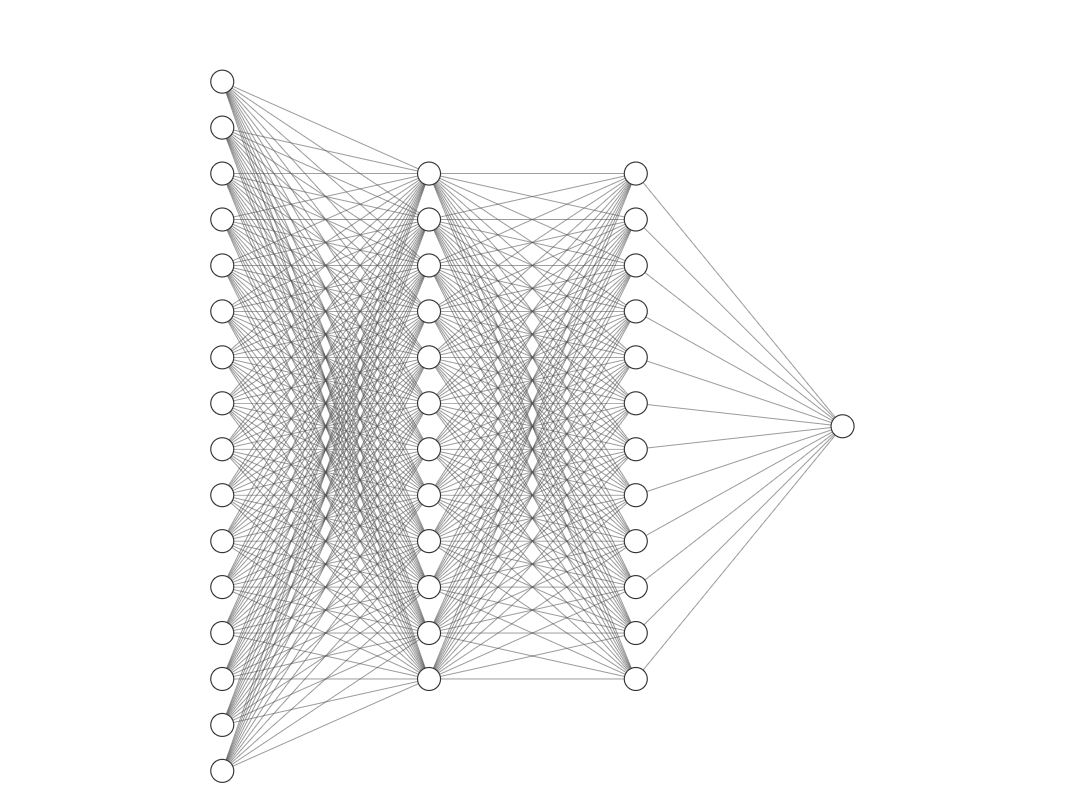
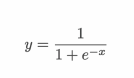
1. The problem  
   Given an image of a dog or a class, the machine learning model will classify that whether the picture contain a dog or a cat
2. Dataset used  
   The dataset used in this assignment was the Kaggle‘s Cats and Dogs Dataset. The dataset contains 25.002 images with 12.501 cat images and 12.501 dog images.
3. Method  
   A deep neural network model is used to perform the classification task
4. Model structure:  
   

Output layer: 1 neuron

2 hidden layers: 128 neurons each

Input layer: 2500 neurons

Our input will be a 50 x 50 image so the input layer will have 2.500 neurons, next are 2 hidden layers each with 128 neurons. Finally the output layer will have 1 neuron. The activation function between each layers is the logistic function.

1. Method  
   The images will be resize to 50 x 50 pixels and then convert to numpy array. After that the arrays will be flatten and then feed to the model. Between each layer is the sigmoid activation function:  
   

Following 2 hidden layer with 128 neurons each, the output layer will have a single neuron that return a value between 0 and 1.

Next, the weights are randomly initialize and then used to perform the forward pass.