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| NN TASK 3 |  |
|  |  |
|  | 30-11-2022NEURAL NETWORK |
|  | TEAM ID: CS-H28 |

## Team member information

|  |  |
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# Penguins Dataset

## Sigmoid function

#### Parameters

As shown in the figure.1 below we use these parameters to achieve this accuracy which will be shown later

Graphical user interface, application

Description automatically generated

Figure parameters

#### Accuracy

Chart

Description automatically generated

Figure accuracy

## TanH function

#### Parameters

As shown in the figure.3 below we use these parameters to achieve this accuracy which will be shown later

Graphical user interface, application

Description automatically generated

Figure 3 parameters

#### Accuracy

Chart

Description automatically generated

Figure 4 accuracy

Table.1 -penguins dataset

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Activation Function** | **Train Accuracy** | **Test Accuracy** | **LR** | **Epochs** | **#Layers** | **#HiddenNodes** |
| Sigmoid | 100% | 100% | 0.01 | 1000 | 3 | 16,8,4 |
| Tanh | 100% | 98.33% | 0.01 | 1000 | 3 | 16,8,4 |

# MNIST Dataset

## Sigmoid function

#### Parameters

Graphical user interface, application

Description automatically generated

As shown in the figure.5 below the accuracy of training and testing became 88.7% and 88.9% respectively using these parameters which will be shown in table.2

#### Accuracy

Graphical user interface, text

Description automatically generated

Figure 5 accuracy

Table.2 -MNSIT dataset

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Activation Function** | **Train Accuracy** | **Test Accuracy** | **LR** | **Epochs** | **#Layers** | **#HiddenNodes** |
| Sigmoid | 88.7% | 88.9% | 0.01 | 10 | 2 | 32,16 |