ANN_cpp

Generated by Doxygen 1.9.1

Chapter 1

Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 2

Class Documentation

2.1 Layer Class Reference

The documentation for this class was generated from the following file:

- /home/marc/Documents/1. Développement/4. C++/1. Neural Network/ANN_cpp/src/layer.hpp

2.2 Network Class Reference

The documentation for this class was generated from the following file:

- /home/marc/Documents/1. Développement/4. C++/1. Neural Network/ANN_cpp/src/network.hpp

2.3 Node Class Reference

Class Node.

```
#include <node.hpp>
```

Public Member Functions

- Node (activationFunction function, int nbIn)

  Construct a new Node object.
- Node ()

  Empty constructor for Node object.
- Node & operator= (const Node &)=default

  Equal operator for the node object.
- double processOutputs (std::vector< double > inputs)

  Method to process the outputs of the node.
- double getWeight (int index)

  Get one of the weight.
- double getBias ()

  Get the Bias.
- int getNbInput ()

  Get the number of input.
- activationFunction getActivationFunction ()

  Get the Activation Function of the Node.

2.3.1 Detailed Description

Class Node.

Class which represent the behaviour of a Node in an Artificial Neural Network.

2.3.2 Constructor & Destructor Documentation

2.3.2.1 Node()

```
Node::Node (
             activationFunction function,
             int nbIn )
```

Construct a new Node object.

Construct a new Node object by creating random weights and a random bias.

Parameters

nb↩ In	corresponds to the number of inputs of the created Node.

2.3.3 Member Function Documentation

2.3.3.1 getActivationFunction()

```
activationFunction Node::getActivationFunction ( )
```

Get the Activation Function of the Node.

Returns

activationFunction : the Node Activation Function.

2.3.3.2 getBias()

```
double Node::getBias ( )
```

Get the Bias.

Returns

double : the bias.

2.3.3.3 getNbInput()

```
int Node::getNbInput ( )
```

Get the number of input.

Returns

int : the number of input.

2.3.3.4 getWeight()

```
double Node::getWeight (
             int index )
```

Get one of the weight.

Parameters

index	of the weight we want.

Returns

double : the weight.

2.3.3.5 operator=()

```
Node& Node::operator= (
             const Node &  )  [default]
```

Equal operator for the node object.

Returns

the address Node of the left sided Node object.

2.3.3.6 processOutputs()

```
double Node::processOutputs (
             std::vector< double > inputs )
```

Method to process the outputs of the node.

Method which realise the calculation of the ouput by doing the dot product of the weights by the inputs. Then it add the bias and finally it use the Activation Function on the resulting scalar.

Parameters

inputs	: the inputs of the node.

Returns

double : the state of the node after the calculation.

The documentation for this class was generated from the following files:

- /home/marc/Documents/1. Développement/4. C++/1. Neural Network/ANN_cpp/src/node.hpp
- /home/marc/Documents/1. Développement/4. C++/1. Neural Network/ANN_cpp/src/node.cpp

Index