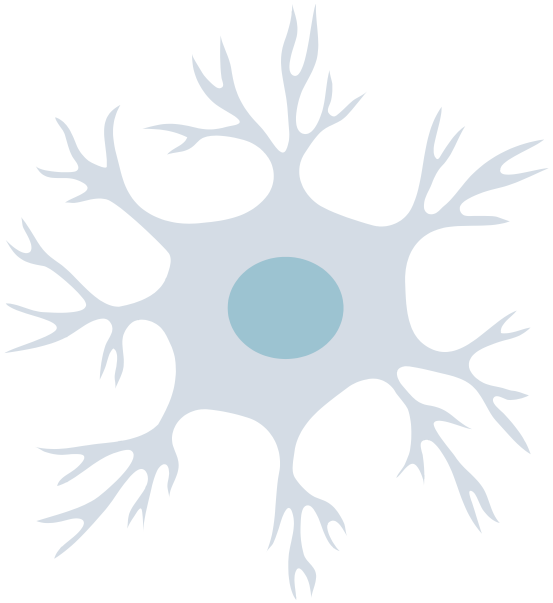
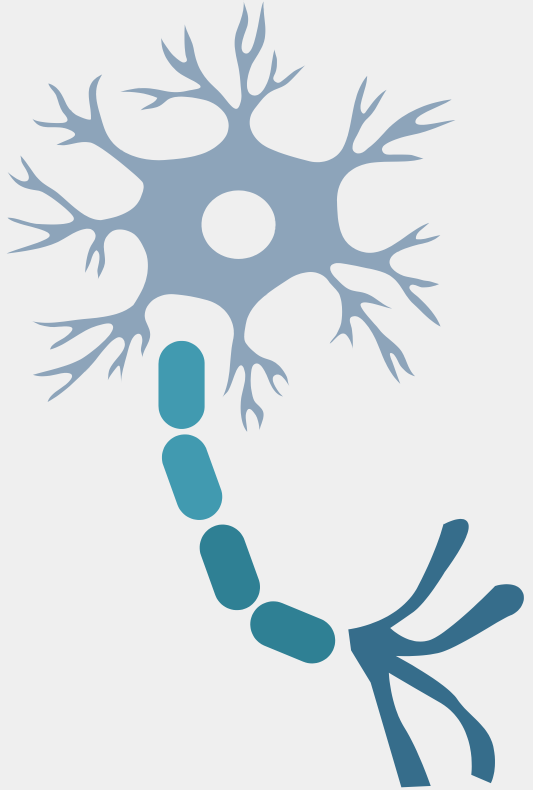


Perceptrones

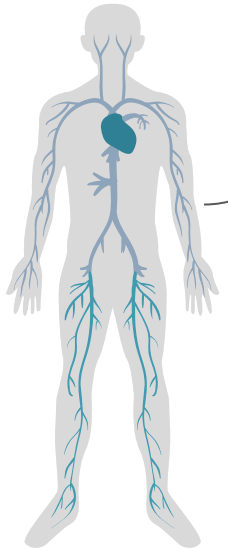
Baron, Maria Mercedes
Mannelli, Lucciano Elian
Ortu, Agustin Sol
Rossi, VIctoria

EJERCICIO 2



EJERCICIO 2 - Perceptrón Simple Lineal y No Lineal

CUERPO DEL PROBLEMA



01

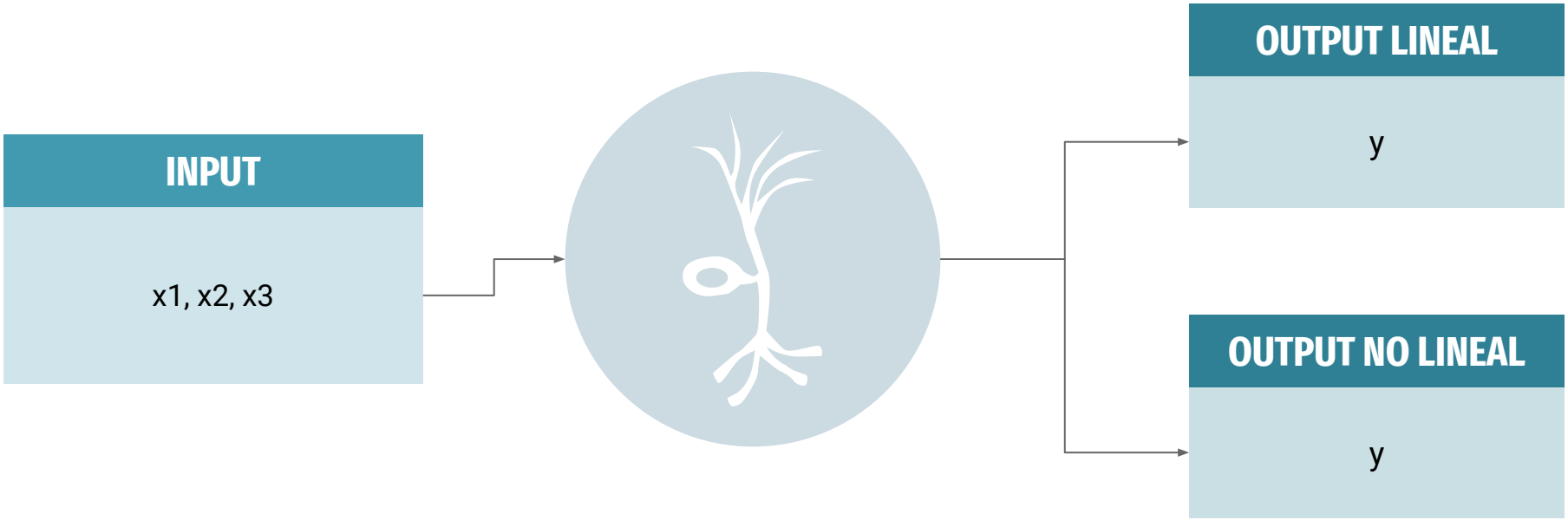
EVALUACIÓN DE APRENDIZAJE

02

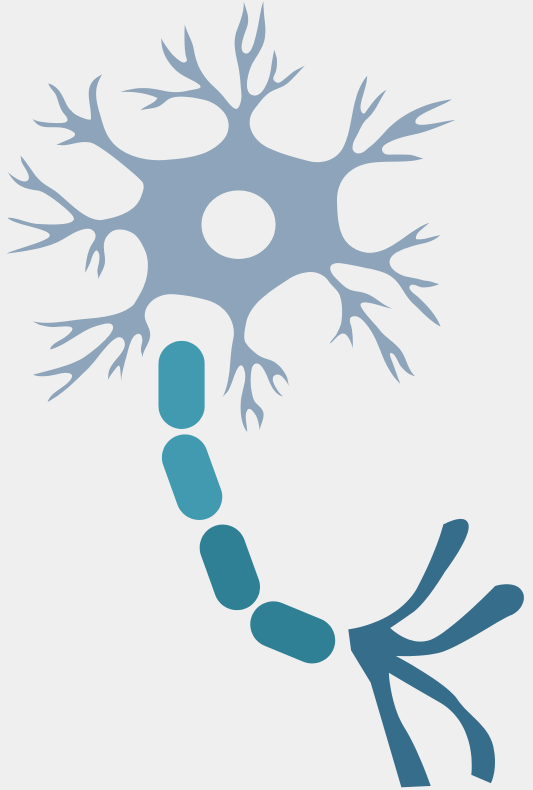
EVALUACIÓN DE GENERALIZACIÓN

03

CONCLUSIONES

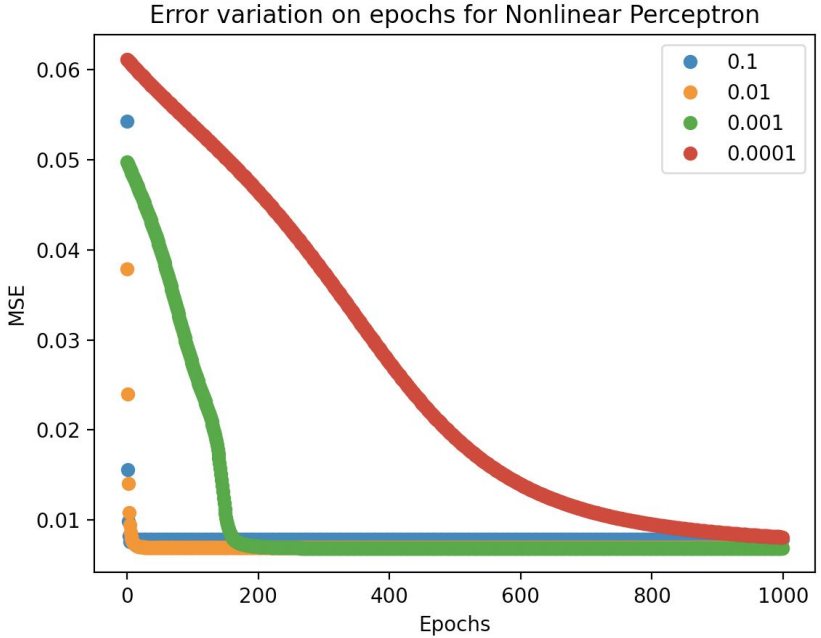

INPUT
x1, x2, x3
OUTPUT LINEAL
y
OUTPUT NO LINEAL
y

ANÁLISIS DE LEARNING RATE



MSE vs Epochs for Different learning rates

"beta": 0.8,
"theta":"tanh"



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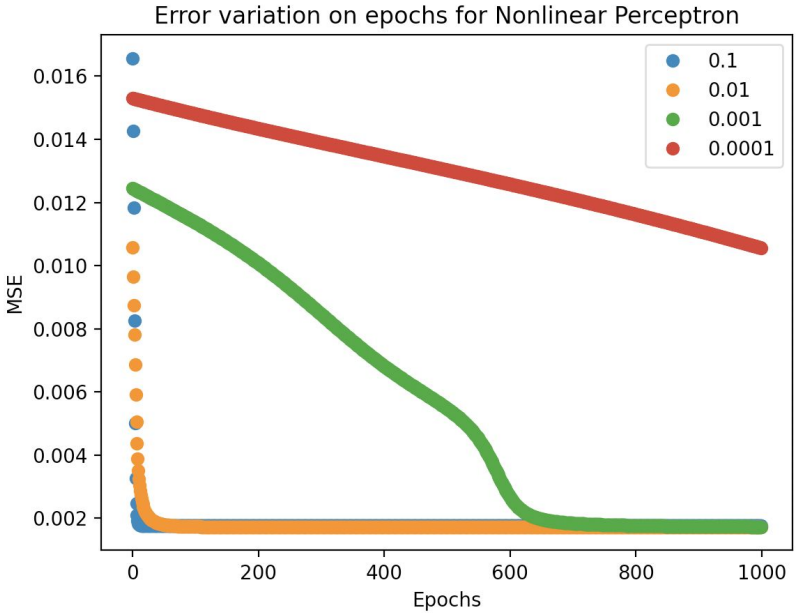
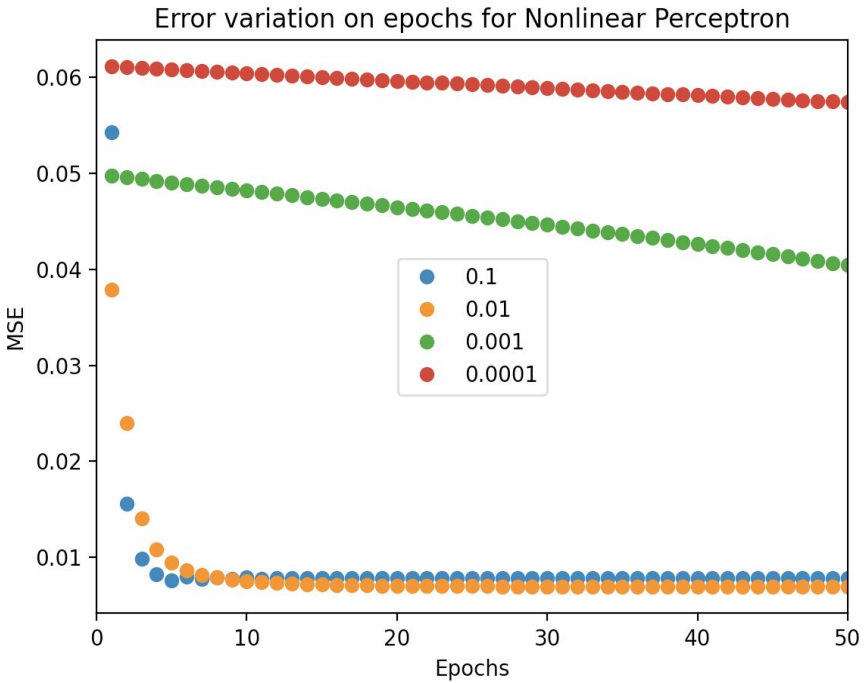


ZOOM - No Lineal

"beta": 0.8,
"theta":"tanh"



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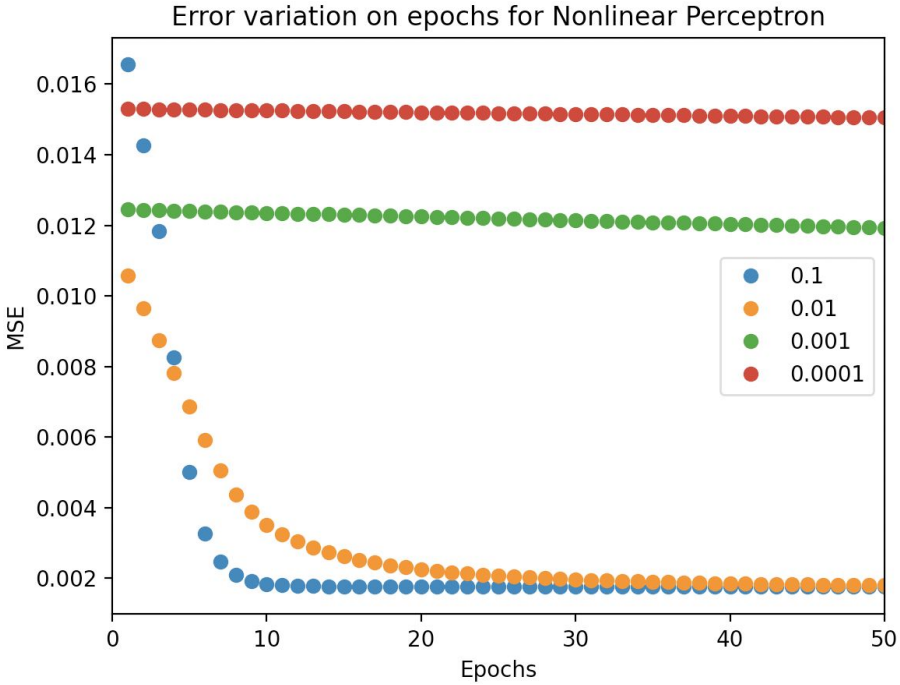
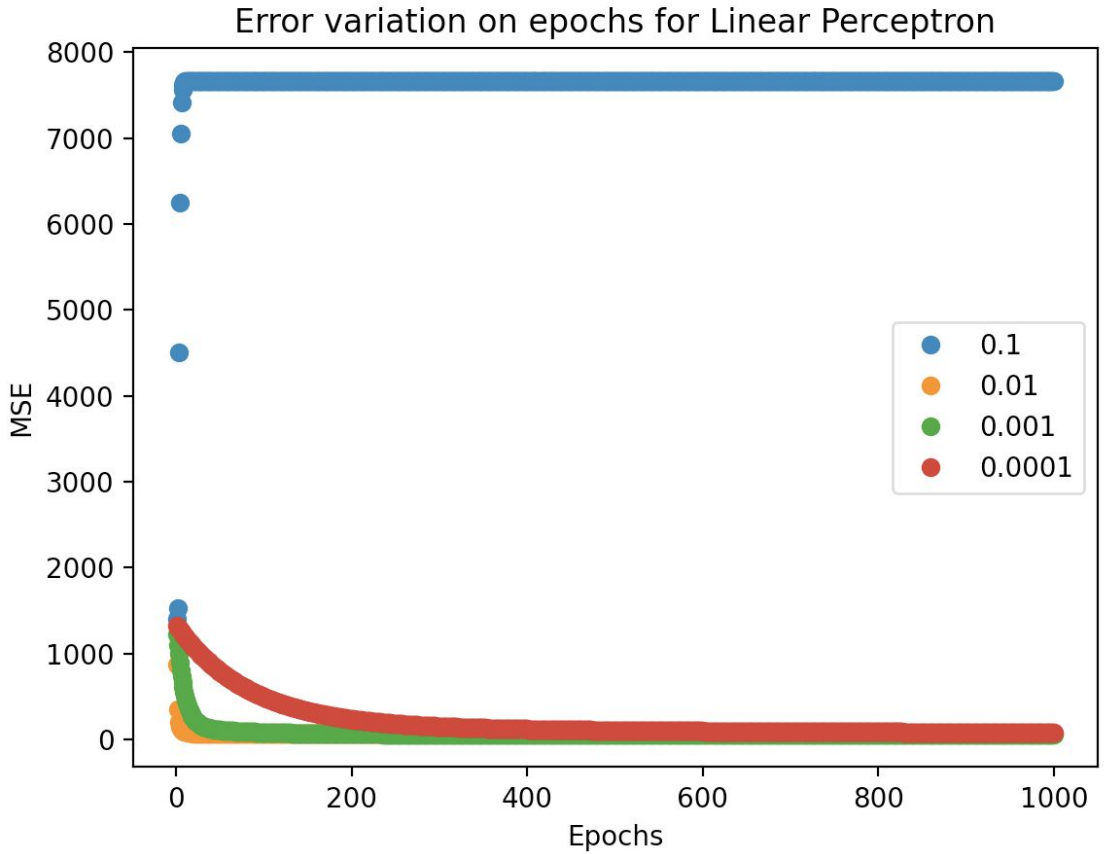
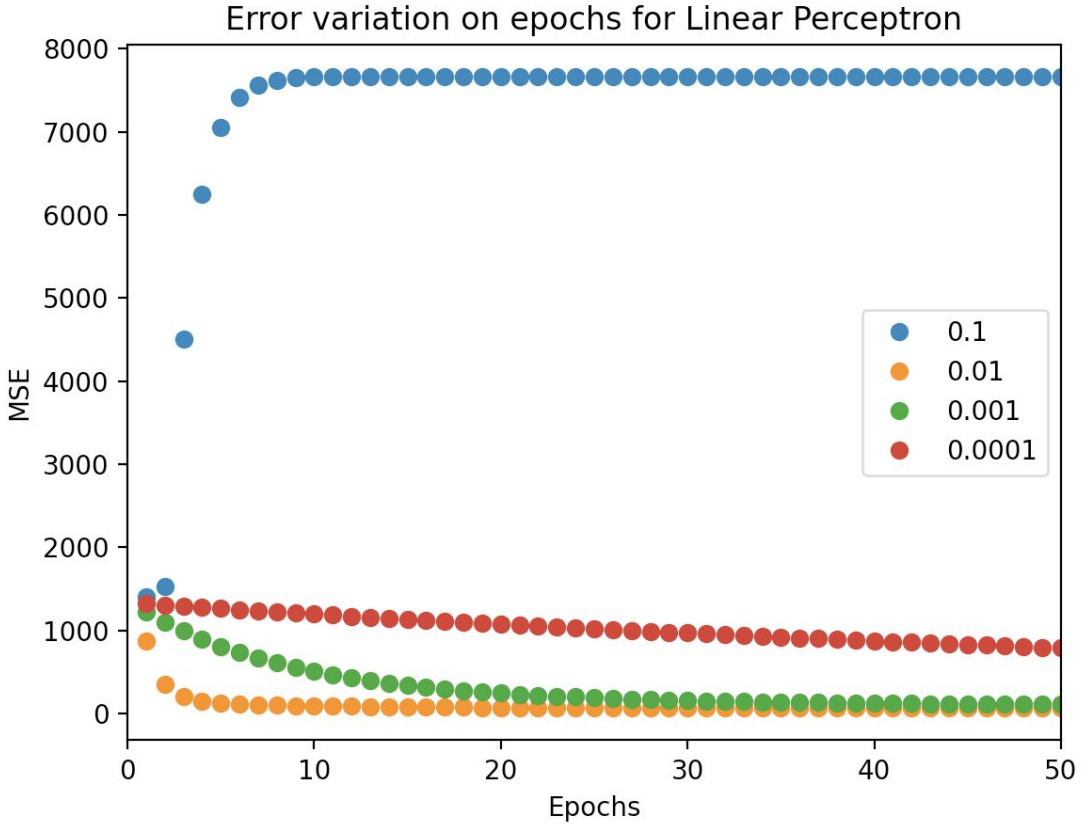


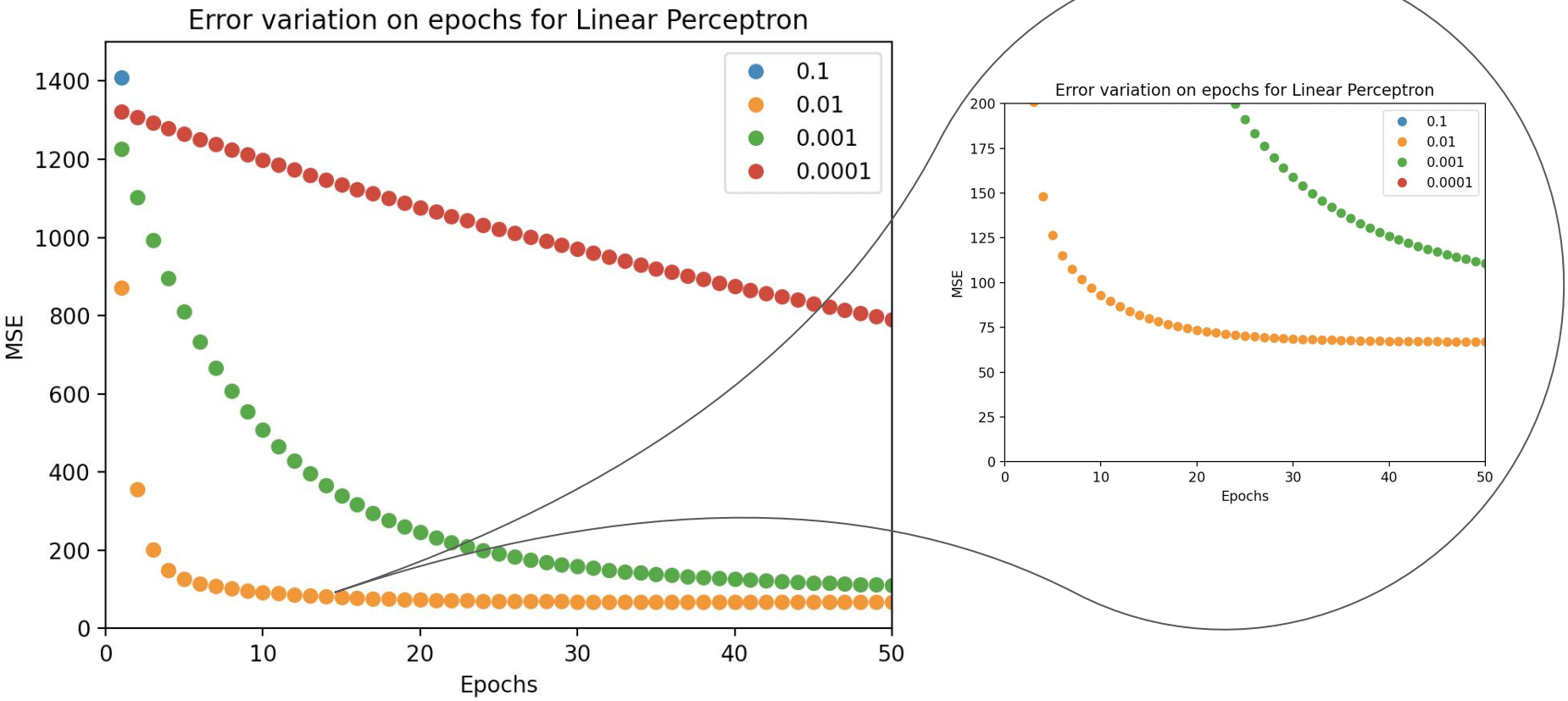
MSE vs Learning Rates



ZOOM - Lineal

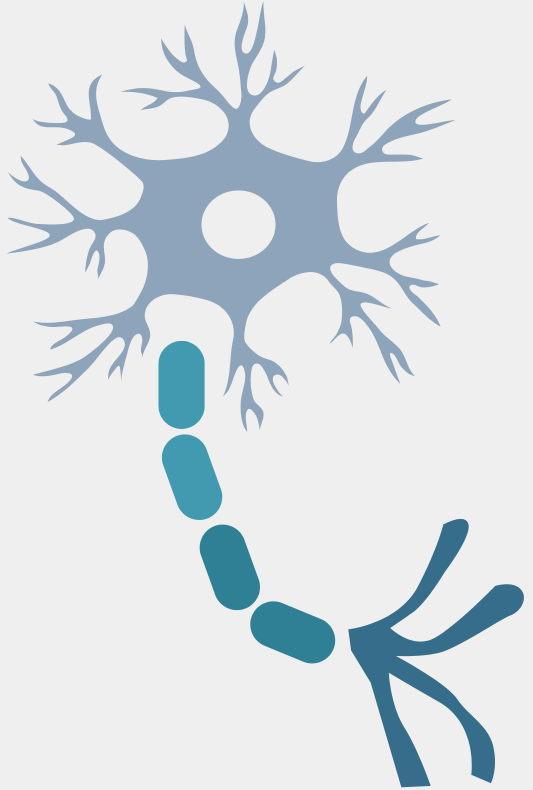

Error variation on epochs for Linear Perceptron
MSE
Epochs
0
1000
2000
3000
4000
5000
6000
7000
8000
0
10
20
30
40
50
0.1
0.01
0.001
0.0001

ZOOM - Lineal


Error variation on epochs for Linear Perceptron
MSE
Epochs
0.1
0.01
0.001
0.0001
0
200
400
600
800
1000
1200
1400
0
10
20
30
40
50
Error variation on epochs for Linear Perceptron
MSE
Epochs
0.1
0.01
0.001
0.0001
0
25
50
75
100
125
150
175
200
0
10
20
30
40
50

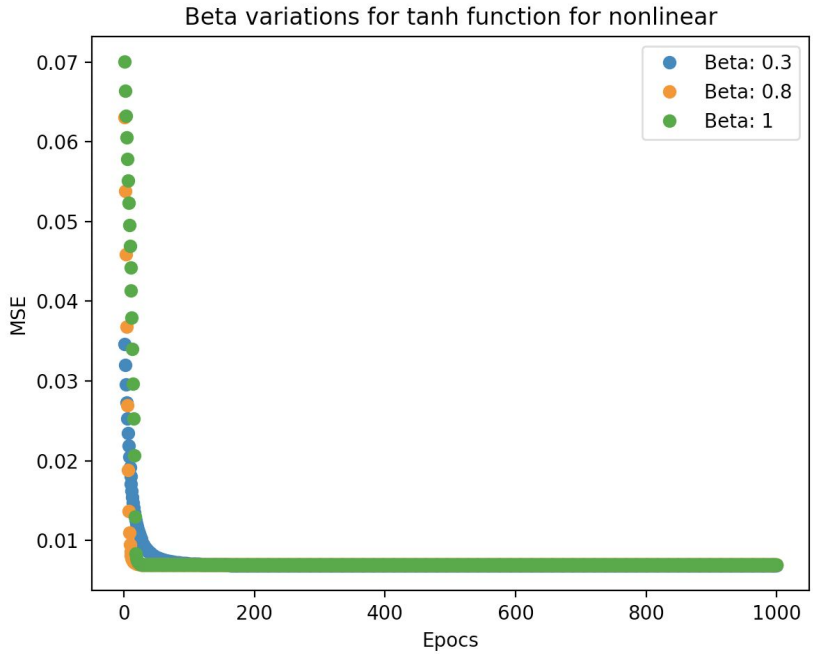
VALOR TOMADO LEARNING RATE

ANÁLISIS DE BETA

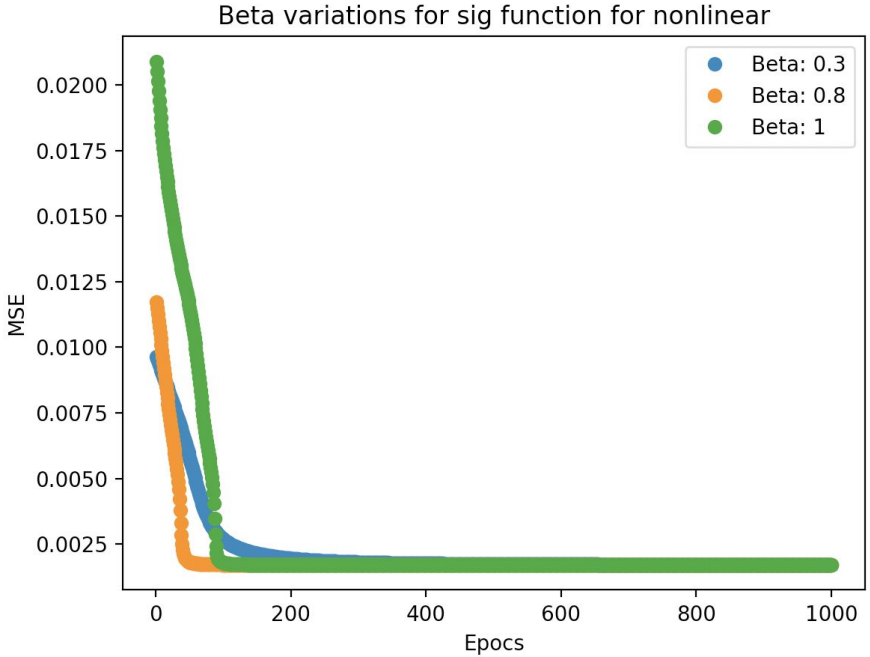


No Lineal

"learning_rate": 0.01,
"theta":"tanh"

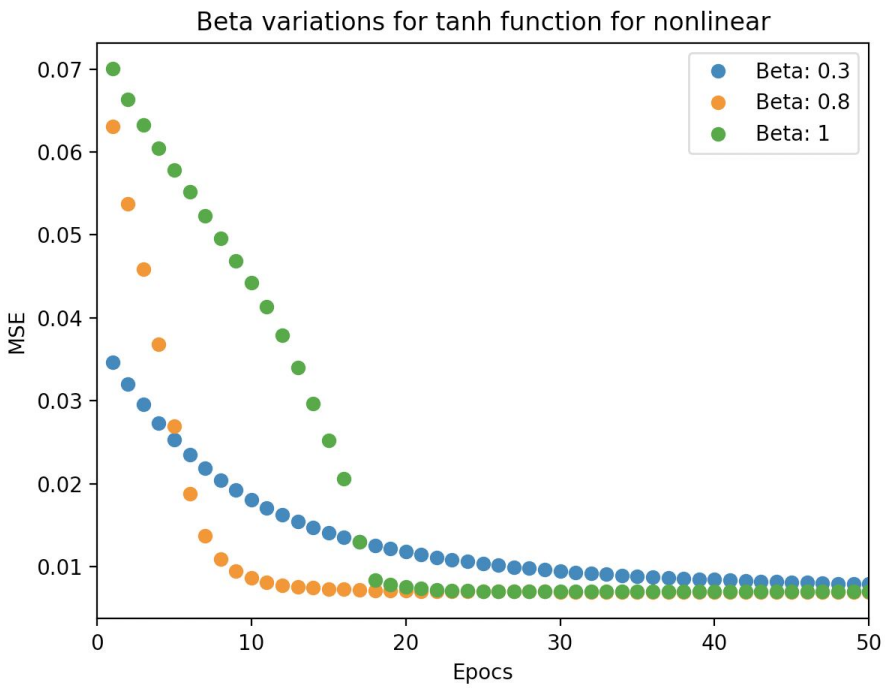


"learning_rate": 0.01,
"theta":"sig"



ZOOM - No Lineal

"learning_rate": 0.01,
"theta":"tanh"



"learning_rate": 0.01,
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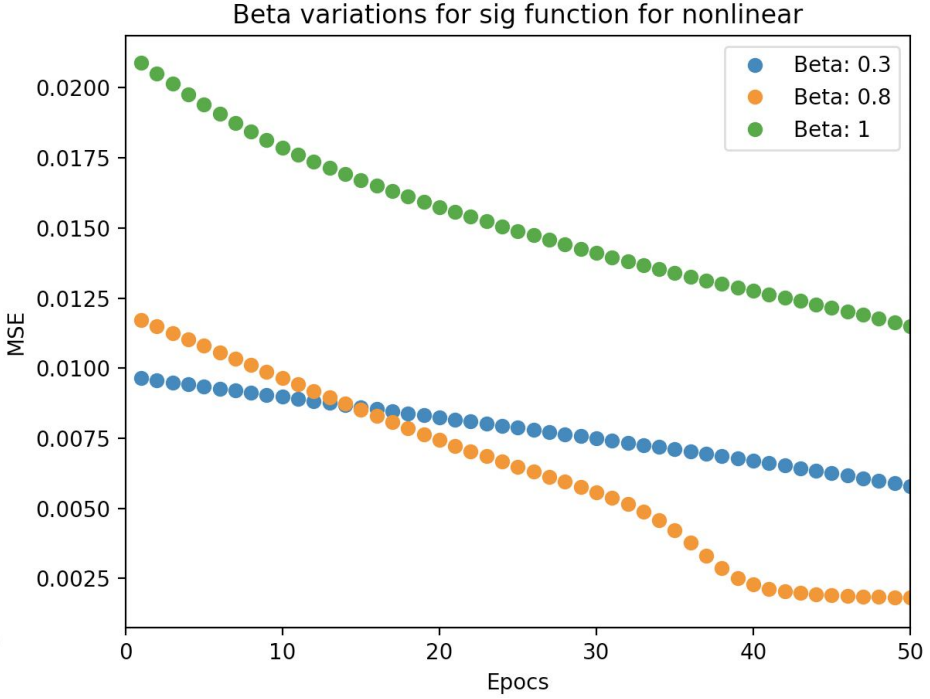
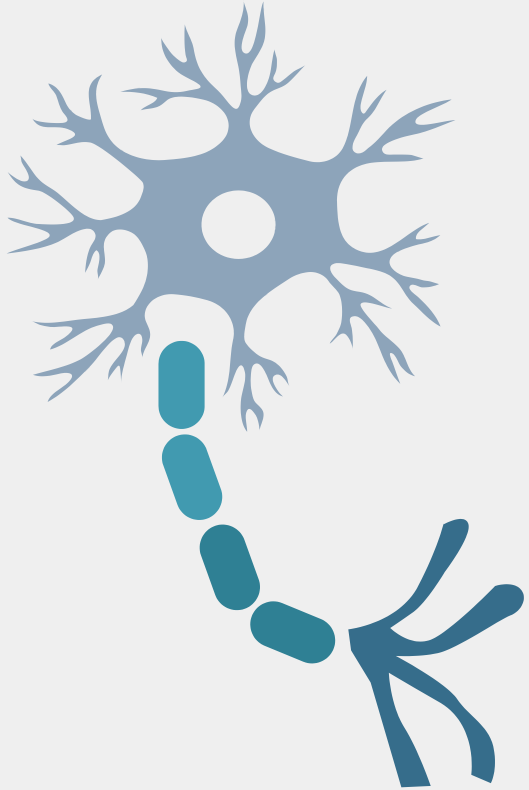
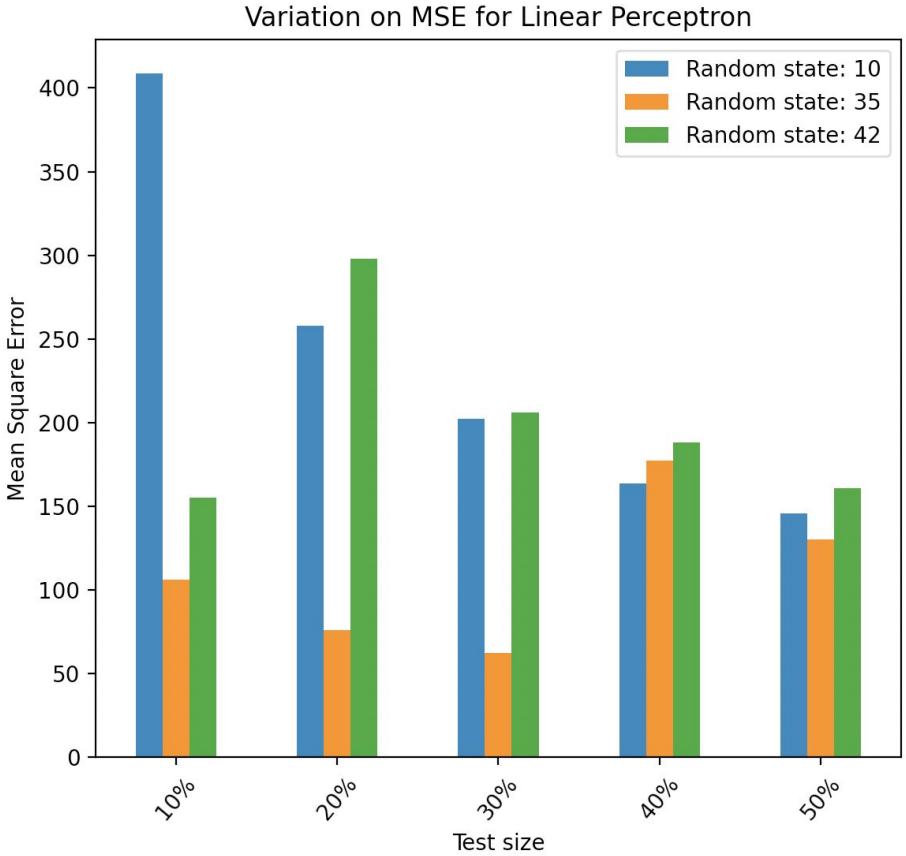


¿Qué efecto tiene la elección de parámetros en la capacidad de generalización del perceptrón?

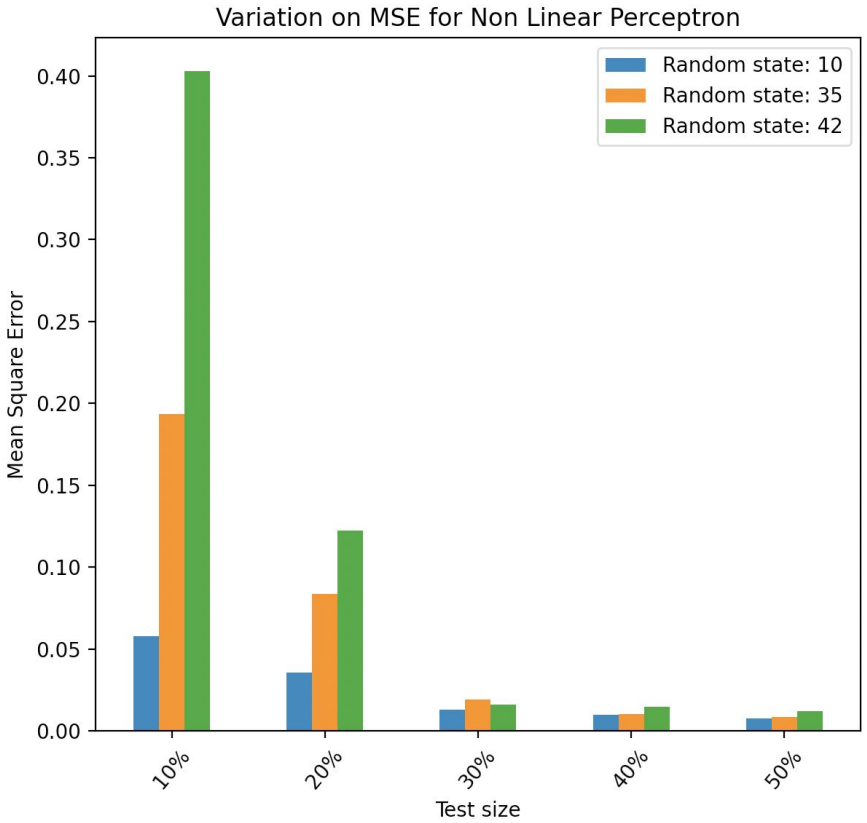


LINEAL



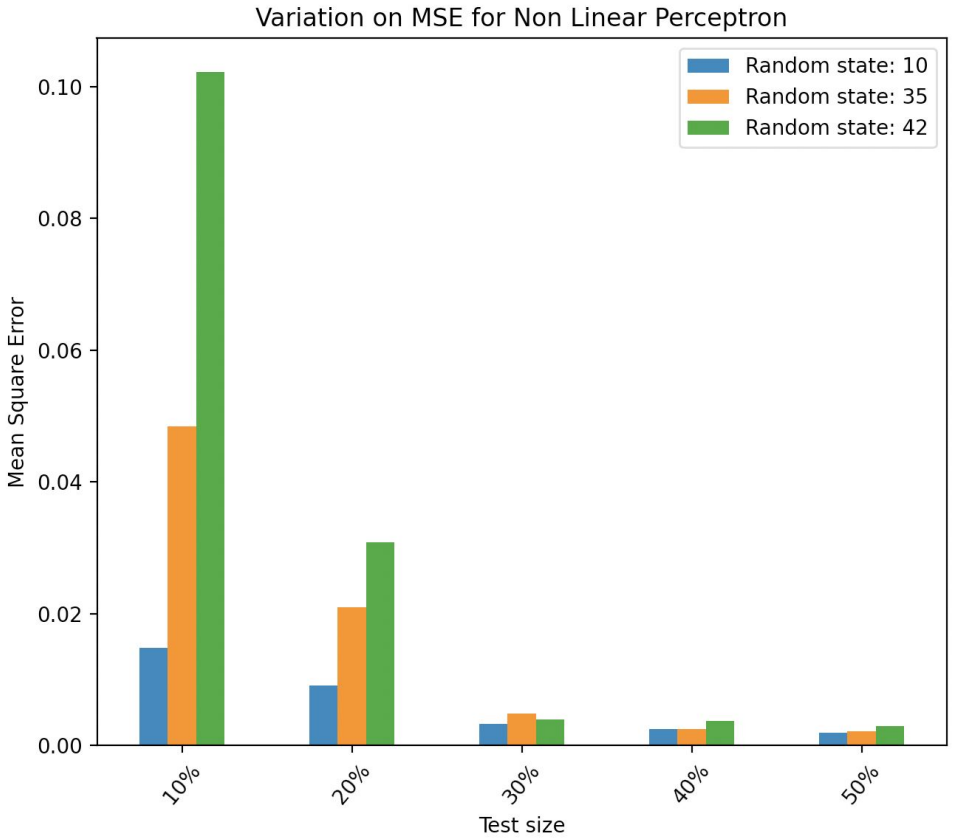

```
"learning_rate": 0.01,
"epochs": 1000,
"bias": 1,
```

NO LINEAL




```
"beta": 0.8,
"theta":"tanh"
"learning_rate": 0.01,
"epochs": 1000,
"bias": 1,
```

NO LINEAL




```
"beta": 0.8,
"theta":"sig"
"learning_rate": 0.01,
"epochs": 1000,
"bias": 1,
```

VALORES TOMADOS

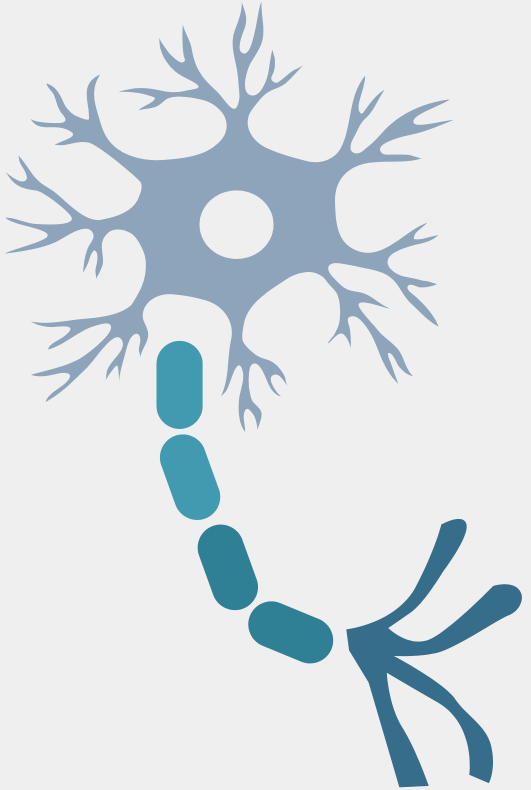
NO LINEAL

- Learning Rate: *0,01*
- Bias: *1*
- Epochs: *100*
- Beta: *0,8*
- Theta: *sigmoid*
- Random-state: *10*

LINEAL

- Learning Rate: *0,01*
- Bias: *1*
- Epochs: *100*
- Random-state: *10*

Conclusiones




¡¡¡Gracias!!!