UCS
UNIVERSIDADE
DE CAXIAS DO SUL

Análise Resultados Rede Neural

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Semestre 4/2019

Inteligência Artificial II

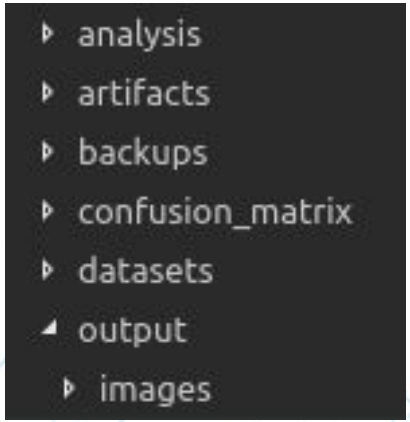
FUNDAÇÃO UNIVERSIDADE
DE CAXIAS DO SUL

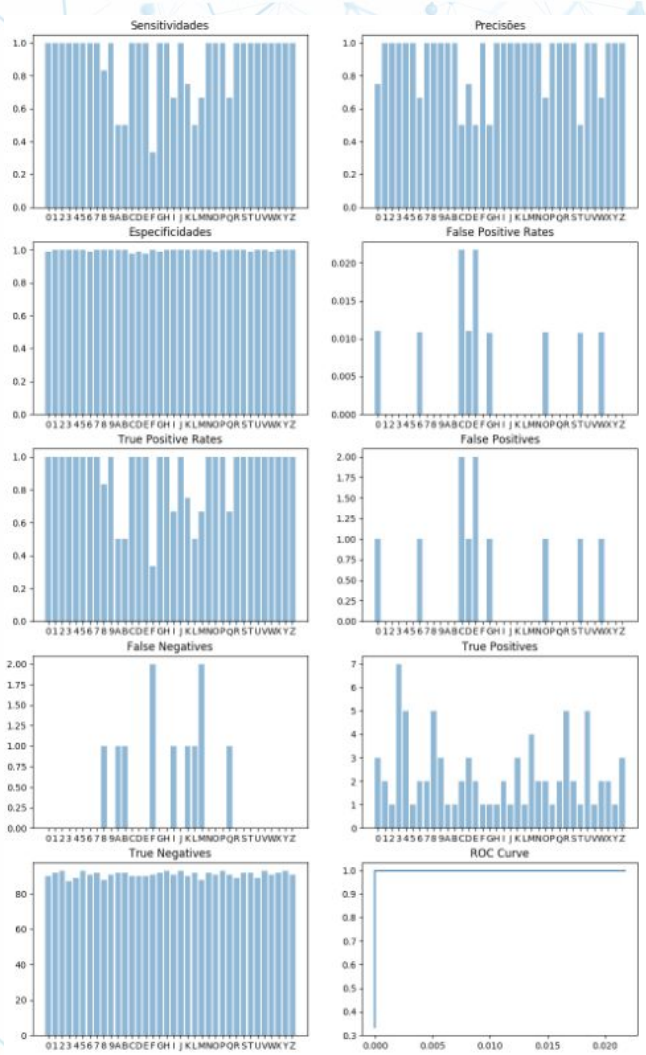
Introdução

- Linguagem utilizada: 
- Algoritmo implementado de acordo com a especificação.
- Caracteres especiais utilizados:
  - **.** ; **,** ; **$** ; **!** ; **-** ; **+**
- Momentum não foi utilizado

Introdução

- Diferenciais na geração dos resultados:





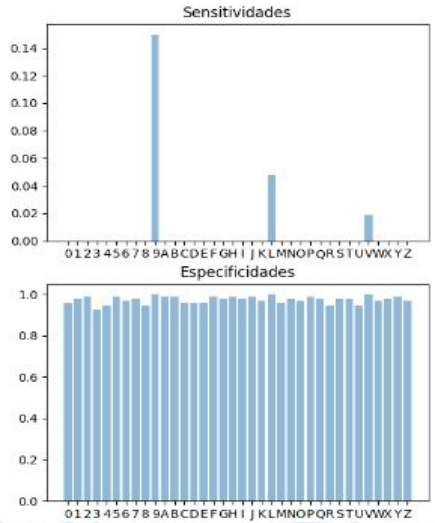
Resultados

Épocas	Learning Rate	neurônios camada escondida	acurácia	erro
500	0.3	10	0.947	0.052
500	0.3	20	0.985	0.014
500	0.3	30	0.994	0.005
500	0.3	40	0.993	0.006

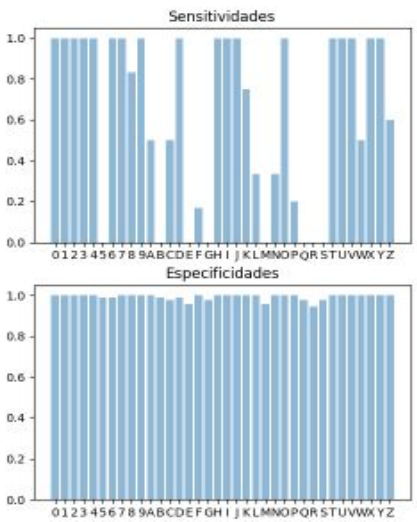
Resultados - Sensitividades e Especificidades

500 Épocas e Learning Rate 0.3

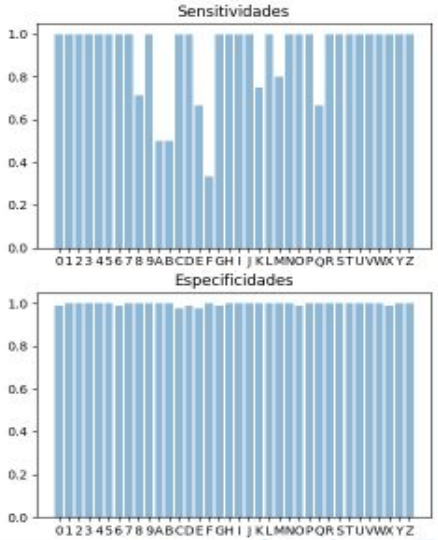
10 Neurônios



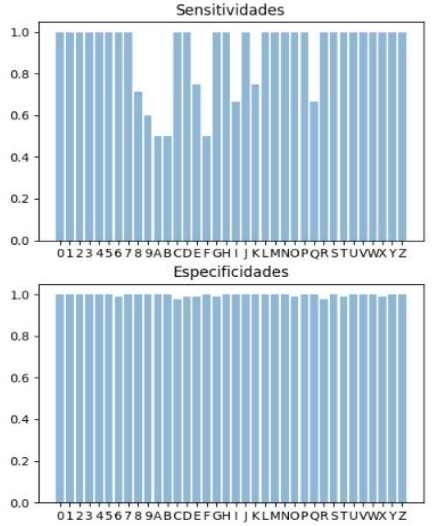
20 Neurônios



30 Neurônios



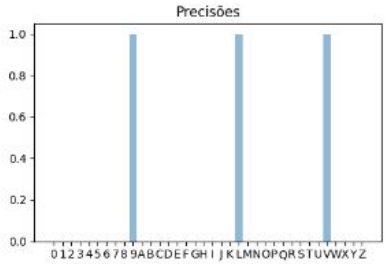
40 Neurônios



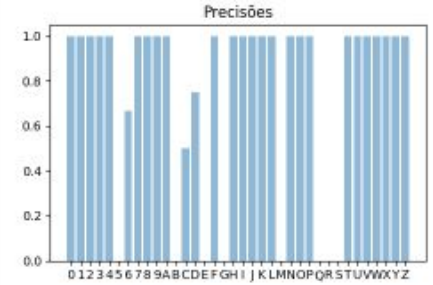
Resultados - Precisões

500 Épocas e Learning Rate 0.3

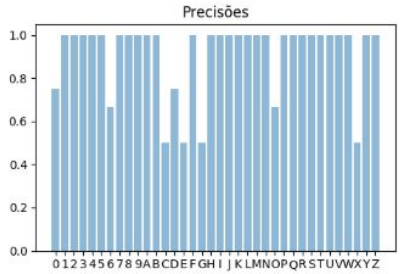
10 Neurônios



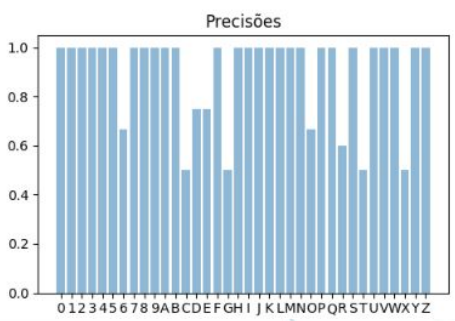
20 Neurônios



30 Neurônios



40 Neurônios



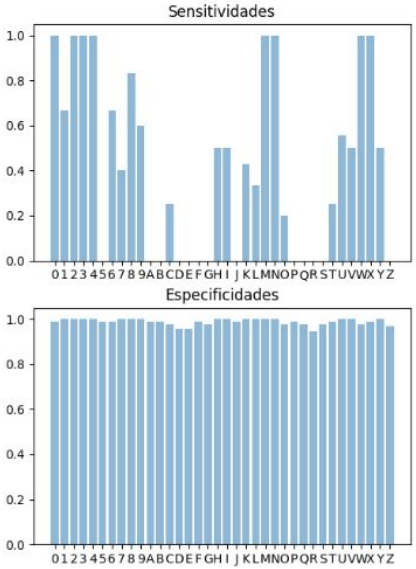
Resultados

Épocas	Learning Rate	neurônios camada escondida	acurácia	erro
1000	0.3	10	0.97	0.022
1000	0.3	20	0.992	0.007
1000	0.3	30	0.993	0.006
1000	0.3	40	0.992	0.007

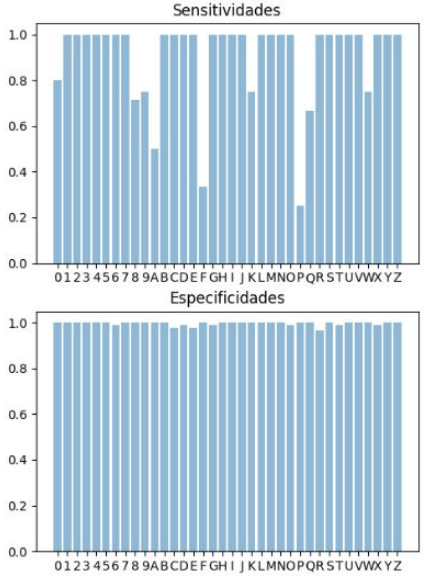
Resultados - Sensitividades e Especificidades

1000 Épocas e Learning Rate 0.3

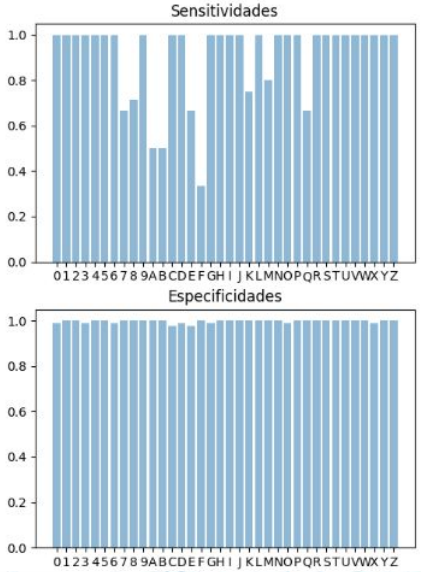
10 Neurônios



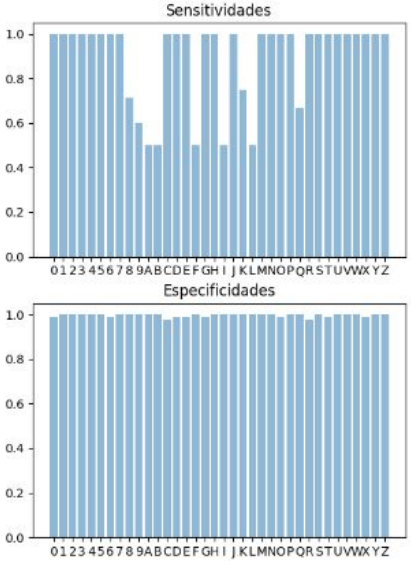
20 Neurônios



30 Neurônios



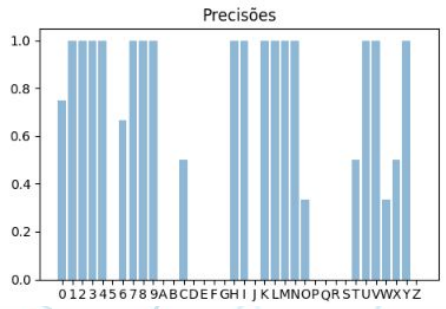
40 Neurônios



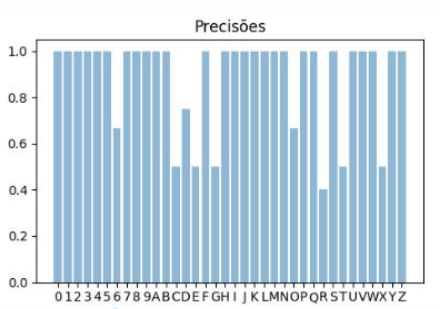
Resultados - Precisões

1000 Épocas e Learning Rate 0.3

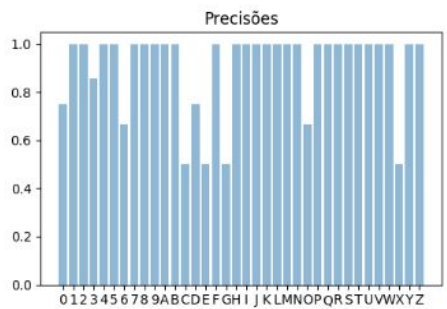
10 Neurônios



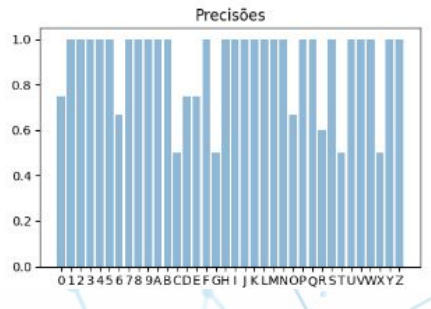
20 Neurônios



30 Neurônios



40 Neurônios



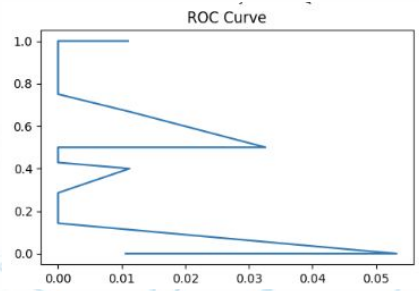
Resultados - Somente o mais acurado

Épocas	Learning Rate	neurônios camada escondida	acurácia	erro
1000	0.1	30	0.980	0.019
1000	0.3	30	0.993	0.0065
1000	0.6	30	0.992	0.0076
1000	1	30	0.994	0.0059

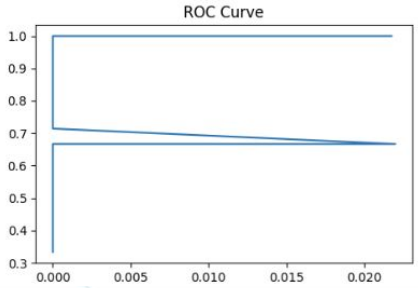
Resultados - Curvas ROC

1000 Épocas

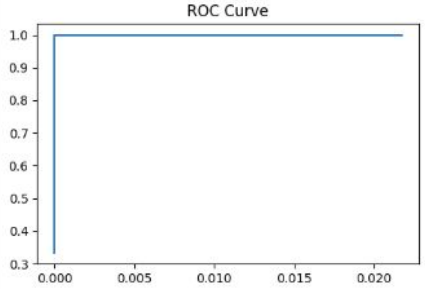
0.1 Learning rate



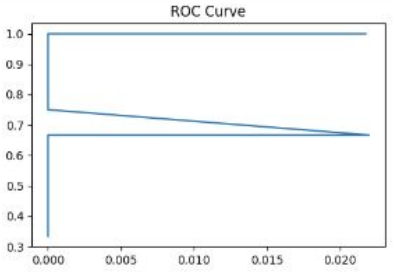
0.3 Learning rate



0.6 Learning rate



1 Learning rate



Conclusões Finais

- Importância de testar com diversidade de parâmetros;
- Influência da visualização dos resultados por meio de gráficos;
- Testar com mais épocas e neurônios

Conclusões Finais

Trabalhos futuros:

- + camadas escondidas
- Interface Web
- Otimização de performance
- Adequação de Curva Roc

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Obrigado!

https://github.com/11808s8/python-neural-network

agsilva11@ucs.br

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