Controle de um Braço Robótico usando RNA

Erivelton Gualter dos Santos

erivelton.gualter@gmail.com, 11.210.368-4

```matlab
clear
clc
close all

sim('GenerareData.slx');          % Open Simulink "Generate Data"
save                              % Save file

net = feedforwardnet(6);          % Classification algorithm
%load('matlab.mat')               % Load created data
load('treinamento_moodle.mat')    % Load Data from Moodle

net = train(net,teta',torque');   % Train network

gensim(net,-1)                    % Generate block

out = sim(net,teta');             % Recall

% Plot
plot(out(1,:),'x')
hold on
plot(torque(:,1),'ro')
```

Saving to: C:\Users\EriveltonDell\Documents\Centro Universitário da FEI\10
ciclo\ICAC\github\Pendulum\matlab.mat

ans =

untitled2

Feed-Forward Neural Network

Neural Network Training (nntraintool)

Neural Network

Algorithms

Data Division: Random (dividerand)
Training: Levenberg-Marquardt (trainlm)
Performance: Mean Squared Error (mse)
Calculations: MEX

Progress

Epoch:	0	431 iterations	1000
Time:		0:01:17	
Performance:	55.5	0.0746	0.00
Gradient:	66.1	0.0395	1.00e-07
Mu:	0.00100	1.00e-08	1.00e+10
Validation Checks:	0	6	6

Plots

Performance (plotperform)

Training State (plottrainstate)

Error Histogram (ploterrhist)

Regression (plotregression)

Plot Interval: _____ 1 epochs

✔ Validation stop.

Stop Training   Cancel