

91.549 Robotics II
Fall 2003
Prof. Yanco

Lab 8: Neural Networks

Out: Thursday, 6 November 2003

Due: Thursday, 20 November 2003

Overview: In this lab, you'll explore neural networks as a way to develop control algorithms for the robot.

Read the sections of the neural network module that are linked from the course web page (Intro, Building Neural Networks using Conx, and Robot Learning using Neural Networks). Then do Exercises 1 (or) and 2 (xor) in "Building Neural Networks using Conx".

Run the programs in Robot Learning using Neural Networks in simulation. Then write a program that will (hopefully) learn to follow a wall. Try online learning in simulation. If you're feeling brave, save your network and load it on a real robot to see what happens. (Be sure to be close to your robot if you do this.)

Turn in your programs. There's nothing to demonstrate for this lab, unless you want to show me your neural network for wall following, either in simulation or on the real robot.