## Introduction to Neural Networks

Written by Lior Monday, 02 September 2002 14:51 - Last Updated Monday, 31 January 2011 15:04

I wrote this paper for a RSSC presentation of how basic neural networks work and how they can be implemented in robotics. The network is of a simple structure and follows some of the experiments described by Ulrich Nehmzow on a robot called Alder

. The robot that I used was Sparky

. Developing the software was challenging because the Basic Stamp does not use floating point so everything had to be converted to use integer math.

The code can be found here: nueral net2.bs2.txt

Here is a video of the robot in progress. The robot moves towards the wall and tires a move. When the move fails (the sensors are still on) the robot tries a another move. Since this move worked, next time the robot encounters the same obstacle it "knows" what to do.

{youtube}1T7xi8jCgOE{/youtube}

**Paper** 

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