

The “Robby the Robot” Graphics Program in Netlogo

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This file describes the “Robby the Robot” graphics package, in Netlogo, written by Melanie Mitchell. This package allows the user to input a particular strategy (e.g., one evolved by the genetic algorithm) and view the behavior of Robby using that strategy. (Note that while this program works, it doesn’t yet have all the features I would like to add to it.)

First, if you do not already have Netlogo installed on your machine, download it (for free) from <http://ccl.northwestern.edu/netlogo/>

Netlogo is a simulation and graphics platform, developed by Uri Wilensky and his research group at Northwestern University. Netlogo is free, easy to use, and runs on Windows, Mac, and Linux platforms.

Once you have Netlogo installed, and you have downloaded RobbyGraphics.nlogo, you can either click on the file name “RobbyGraphics.nlogo”, or start up Netlogo and open the RobbyGraphics.nlogo file.

Enter a 243-digit strategy into the Strategy input box. (Erase or paste over the “null” that initially appears there.) This will usually be done by copying and pasting from a “.best” or “.long” file created by the GA program. Make sure there are no line-breaks in the strategy.

Click on “Initialize” to set up a new random environment for Robby.

Click on “Go” to have Robby perform an action. The current version of this Netlogo program doesn’t allow Robby to keep moving continuously; you have to keep on clicking “Go” every time you want him to perform the next action. The boxes beneath the “Initialize” and “Go” boxes will display the current action and the current (cumulative) score.

Clicking on “Initialize” again will generate a new random environment for Robby, using the same strategy.