

Evolutionary Robotics Final Project

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Does robot joint and limb morphology affect evolutionary response to the same distance based fitness function?

Time Line:

3) Work on the hillclimber algorithm.

This week I worked on connecting up the ANNs and got the genetic algorithm up and running. I opted to use the genetic algorithm instead of switching back to the parallel hillclimber. The resultant robots have behaved as expected and since beginning the class, I haven't seen an evolved controller do as well. The fitness function is simply the distance from the light sensor as it heads towards the light emitting block. I think I will leave the function simple as I want to control distance and direction while allowing evolutionary freedom for all robot morphologies to better understand the rate of evolution on these different robots.

Video of resultant robot:

<https://www.youtube.com/watch?v=tJtaYfHrdz0&feature=youtu.be>

Consol Output and Constants:

