KTH Computer Science and Communication

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OPPONENT RECORD

Thesis compiled by:	
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Title of thesis:	
	Evolutions of Artificial Brains in Simulated Animal Behaviour
Opponent:	
	Fiorella Grados

Was it easy to understand the underlying purpose of the project? Comments.

Yes, the purpose of the project was named and explained in the different subsections of the first chapter. All the questions that the author wants to answer are explicit in the subsection 1.3 Problem statement.

Do you consider that the report title justly reflects the contents of the report?

Yes, because they studied how the behaviours of the animals changes over time, how do they evolve, simulating artificial animal brains by using three different functions, which is reflected in the title.

How did the author describe the project background? Was there an introduction and general survey of this area?

The authors described first the importance of simulating animals in different ecological scenarios to predict if they can adapt to the new circumstances or if they will become extinct. There is also briefly described about genetic algorithms and how they have been used before.

To what degree did the author justify his/her choice of method of tackling the problem?

The authors explain clearly why a method is chosen and the benefits; an example of it is why parts of the population of animals are simulated separately.

Did the author discuss the extent to which the prerequisites for the application of such a method are fulfilled?

The authors describe elements like DEAP (distributed Evolutionary Algorithms in Python) that are important to make the simulations. It is also described the reasons for choosing those elements.

Is the method adequately described?

Yes, the authors describe, among others, the functions that are the main object in their implementation and are they related to the simulation. They also describe why do they chose Python as implementation language.

Has the author set out his/her results clearly and concisely?

Yes, in the results section, specifically in the subsection 4.1 Simulation results, there are three subsections where the results of each simulation are described.

Do you consider the author's conclusions to be credible?

The authors' conclusions are based on the information gotten from the simulation and it makes the conclusions be reasonable and credible.

What is your opinion of the bibliography? What types of literature are included? Do you feel they are relevant?

The authors referred to different publishing like books or documents, about algorithms, genetics, artificial evolution, etc. that seem to be relevant to the project.

Which sections of the report were difficult to understand?

In general the report was understandable, but it was quite strange having the figures, in my opinion, in the wrong place or in the middle of a sentence, which make you distract with the it .

Other comments on the report and its structure.

The report has a good structure and has been written in a scientific and professional way. The titles of all the section are coherent and reflect the content.

What are the stronger features of the work/report?

The report has a good structure and let the reader find the information easily. The abstract makes it easy to get a good overview and catch the attention of the readers and makes them to get interested on the subject.

What are the weaker features of the work/report?

As mentioned before the figures should have a better location according to the content of the text. It was quite distracting being interrupted by a figure in the middle of a sentence.

What is your estimation of the news value of the work?

In the background of this document is mentioned that the author of a report acknowledged that many behaviours could be implemented using simple linear functions. It is not mentioned if somebody else has already done it but since their goal is to find out if it possible we can assume that it is something new and helpful for further simulations.

Summarize the work in a few lines.

In the report are explained relevant definitions to understand the text. They describe how do they implemented the simulations using a radial basis and linear function. It is also described the scenarios they created for each simulation and then they compare the results they got with what they were expecting.

Questions to author:

1. In the background of this document is mentioned that the author of a report acknowledged that many behaviours could be implemented using simple linear functions. Has anybody implemented it before you?
2. Is it relevant for the project if the animals die at a certain age?
3. Wouldn't it be more realistic if the animals die at a certain age in case they did not do it by eating a red plant or were eaten by a predator?