

OPPONENT RECORD

Thesis compiled by:

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Title of thesis:

RoboCup Soccer Simulation

A hand-coded approach to creating autonomous agents

Opponent:

Robert Wideberg

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

The purpose of the report seems to be to give the reader an introduction to the design process of autonomous agents. The authors mention that they use a master's thesis on the same subject as a framework and this can give the reader a sense of that the report is redundant. In the research section the authors explain that it is hard to find teams using only hand-coded strategies and that many are reluctant to share their solutions, this could be mentioned earlier in order to strengthen the purpose. The authors should consider adding a standalone "Purpose" section to the introduction. The problem statement would also be clearer if specific questions would be posed in e.g. a bulleted list.

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

The title explains the contents of the report fairly well. It could however be rephrased slightly in order to reflect that the report is comparing different algorithms against each other. For example:

RoboCup Soccer Simulation

*A **comparison and analysis** of hand-coded approaches to creating autonomous agents*

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

There is an introduction and a general survey of the area. It would be interesting to get an overview of how one of the more successful machine learning algorithms work, if any are publicly available.

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

There is a very elaborate section called "Scope/Limitations" that explains the reasons for the choice of method. As mentioned earlier, more effort should be spent on explaining why the project is still relevant given the limitations.

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

The authors describe that they have the time and knowledge necessary for applying the chosen method.

Is the method adequately described?

The method is thoroughly described in a very elaborate approach section. One thing that could be

clearer is which ideas the authors themselves have come up with regarding the tactics and formations and which ones that comes from external sources.

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

Although the results are relatively clear and easy to grasp, it would be great if the authors added some explaining figures (and perhaps some statistics). This would make it easier to get a quick overview of the results. Also, the results are repeated in an "Analysis of results"-section in a way that is not necessary. Not much analysis is made there and instead it halts the progress of the report. The authors should consider revising/removing this section.

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

The conclusions in the report surrounding hand-coded approaches are well founded in the result and discussion sections. Some credible conclusions surrounding the future of RoboCup are also drawn. It is concluded that more effort needs to be spent on making it easier for beginner developers and this is supported in the research section of the report, where it is mentioned that the manual and example clients are outdated.

Additional notes:

The spelling, grammar and the language overall was great throughout the report. The authors refer to a player both as "he/him" and "it/the player" where the latter is more correct. However, he/him is only used in one section and perhaps it is just a slip up from the authors. One Wikipedia article was used as a reference and it has a warning that it may contain original research and that claims are not verified. This reference is only used once and that is when the authors are making a reference to one of the most common football formations 4-4-2. The authors should remove this reference and describe their own formation without referring to the 4-4-2 formation or find a more credible reference.

Questions to authors:

1. How well does an algorithm inspired by real football formations and tactics perform against other algorithms?
2. Considering that football is a multi-million industry, do the authors think that football clubs in the future will start to invest money into development of football simulators in order to find the best tactics and formations?
3. If the authors would speculate, how realistic is the mid-21st century RoboCup goal?
4. In the conclusions it is mentioned that only schools and researches are using the platform today. What can be done to attract a broader span of developers, besides lowering the threshold for beginner developers?
5. Are machine learning algorithms the ultimate solution to creating the best autonomous agents?
6. Are the authors interested in continuing development for the platform and perhaps implement a more advanced machine learning method?