

OPPONENT RECORD

Thesis compiled by

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Title of thesis:

Analysis of Voting Algorithms: a comparative study of the Single Transferable Vote

Opponent:

Henrik Sohlberg

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

It was clear and easy to understand the purpose of the project – a comparative study of the STV to MSL and FPTP. It was a bit unclear (until section 3) in what way STV differed from the two other systems.

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

Yes, the title is appropriate since the report focuses on being a comparative study which is what the title says.

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

The authors shortly introduced me into the context of voting systems and why the subject was of interest to both a Computer and a Political Scientist. Later on in the report they describe the different voting systems algorithms in terms of description and justification.

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

In a highly degree. The authors declares how to evaluate the different voting algorithms. It is also clearly stated about the problems with their input data and how they handle them.

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

Yes, e.g. they discuss prerequisites such as the need for (at least) second preference choices of the voters to fulfil the input data to their STV algorithm implementation.

Is the method adequately described?

Yes, the different algorithms have been evaluated using implementations in Java (which are summarized in sections 3) and the modifications made on the data is outlined briefly in sections 2 and described in more detail in section 4.

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

The result is presented using tables and figures which is good and makes it easy to understand and compare the result when using different algorithms on the data. Although I would appreciate if the tables of the Swedish election result using MSL and STV had been merged. The same applies for the Sub-threshold and Maltese election. This would have made it even easier to compare the results.

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

Yes, the conclusions about the implementation of each voting systems is credible. The conclusion of the outcome from the STV systems is also credible since the authors bears in mind the flaws with the input data behind the results.

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

Perhaps Wikipedia is not the best literature to include in the bibliography since anyone can contribute and there are many "dead links" to be found in articles at Wikipedia, but that is my opinion and I may of course be wrong. Otherwise the literature seems relevant, especially the reference [16] was interesting as it was about how the STV may affect in real life situation.

Which sections of the report were difficult to understand?

I had difficulties to understand how the Single Transferable Vote system, for example the party version, works. In section 3.2.4 in the while loop (party version), does not that imply that the order (of which party below the limit that is being eliminated) becomes essential? Perhaps a figure would have made it easier for me to understand.

Other comments on the report and its structure.

The structure is good, sections 3-4-5 is especially "connected" I would say. According to me, maybe there would have been informative to have a shorter introduction to the different algorithms earlier than in section 3.

What are the stronger features of the work/report?

The study is interesting because the subject is relevant to every citizen that participate in the political election. It highlights the fact that people may choose to vote for larger parties since they may do not want to waste their vote on a party that is unlikely to get the amount of votes needed to pass the threshold. That is why the subject is interesting and a strong feature is the comparison study of some of the different voting systems.

What are the weaker features of the work/report?

The fact that the authors needed to modify some of the input data to make it usable in the study. I think it would have been very valuable to the report if the data for the Swedish Election 2010 results using STV had been authentic and not augmented with probabilities (which the authors also is aware of)

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

The news value is not very high, as the authors themselves says: their study should be regarded as an pilot study and to really evaluate the effects, further research is necessary.

Summarize the work in a few lines.

The essay is a comparative study of three different voting systems algorithms. One (MLS) is the actual one used in the Swedish politics, one (STV) that aims to minimize the amount of “wasted” votes, and the last is an elementary system simple to use. Input data is derived from two real-life cases – the Swedish election 2010 results and the 2008 Malta election results (4th district) – and has been slightly adapted to fit the authors' implementation of the voting systems.

Questions to author:

- 1. Would you suggest that Sweden apply the STV system? Why/why not?**

- 2. What made you choose this project?**

- 3. What was the hardest part with the essay?**

- 4. If you had the chance to go back and do it all over again – what would you have done differently?**