

COST Action IC1205 on Computational Social Choice: STSM Report

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Dates: 10/11/2013 to 03/12/ 2013

Reference : ECOST-STSM-IC1205-101113-033599

During my STSM on "Rules based on most representative voter and graph aggregation" I spent three weeks (from 10 November to 3 December) at the Institute for Logic, Language and Computation at the University of Amsterdam. During this time I collaborated with Ulle Endriss on three projects in the area of judgment aggregation, I gave a talk on "Sentiment Analysis and Preference Aggregation" at the local seminar on Computational Social Choice, and I participated to students' presentations during a lecture of the COMSOC course on the topic of judgment aggregation. The visiting period has been quite pleasant and productive, and have contributed to strengthen the collaboration I have with Ulle Endriss and with the Institute for Logic, Language and Computation in general.

The collaboration with Ulle Endriss allowed us to finalise a paper on the topic of graph aggregation. In this work we bring one step further the approach we developed for binary aggregation in previous work, this time specifying properties of graphs with the use of modal logic. Among other results, we are now able to present a modular theorem that generalises the classical result by Arrow on preference aggregation, finding a unifying proof that works for different graph properties. We also advanced on a second on-going project in which we aim at defining meaningful approximation functions for a distance-based rule for judgment aggregation which is hard to compute. This work has been presented at the IJCAI 2013 Workshop on Advances in Preference Handling and we plan to submit an extended version of that paper to a major conference in the coming year. Finally, we have initiated some work on comparing different frameworks for judgment aggregation in terms of succinctness and computational complexity, in collaboration with Jerome Lang from Université Paris-Dauphine.