

Editorial

The first issue of ORiON Volume 33 contains three interesting papers that spans various topics.

The first paper is authored by Moonyoung Yoon, James Bekker and Steve Kroon. It is titled “New reinforcement learning algorithm for robot soccer”. The authors use the powerful technique of reinforced learning to develop intelligent agents. They introduce a novel algorithm that can be applied to assist with the decisions needed for agents in the RoboCup Small Size League (SSL). Different scenarios where defined and tested to develop the shooting skills of an SSL robot. The results show that if this algorithm is applied and the robot effectively trained, the robot does acquire good shooting skills.

The second paper, titled “A note on flow-based formulations for solving resource constrained scheduling problems” by Fanie Terblanche and Jan van Vuuren investigates the effect of adding valid inequalities to the resource constrained scheduling problem. The paper focus specifically on the flow-based formulation for this family of problems. The authors use known test cases to show empirically that in certain cases computing times could be improved if these valid inequalities are omitted. Furthermore, they propose a heuristic for the generation of initial starting solutions and for estimating the extent of the scheduling horizon to further speed up the solution times.

The final paper by Hans Ittmann, Jennifer Holloway and Nontembeko Dudeni-Tlhone is titled “2014 Election forecast — a post-election analysis”. The authors analyse the reasons why the algorithm used by the Council for Scientific and Industrial Research (CSIR) to predict the election results did not perform as well during the 2014 elections as it did during previous South African elections. The analysis shows that the algorithm is reliant on two assumptions that normally holds, namely (a) that voting districts could be clustered and that voting districts in a cluster will exhibit similar voting patterns and (b) the sequence in which the results of voting districts become available. Due to special circumstances during the 2014 elections these assumptions were violated resulting in the decrease in performance. The analysis provide useful insight into how assumptions are made and how it may influence algorithmic performance.

I want to extent a big thank you to all the authors who contributed to this issue by submitting their work for publication in ORiON. I would also like to convey my sincerest appreciation to the referees who contributed selflessly to this issue. Scholarly journals, such as ORiON, cannot exist without the efforts of both these parties.

My sincerest thanks to Martin Kidd, the journal manager, and Gavin le Roux, the type-setting assistant for their excellent and professional contribution toward ORiON. Without their help and dedication this publication would be near impossible.

As always I hope that the range of papers included in this issue will contain something of interest to all ORiON’s readers. Readers are welcome to contact the editor-in-chief with any recommendations or suggestions regarding this publication.

Stephan Visagie
June 2017