
Editorial

Lorna Uden

FCES,
School of Computing,
Faculty of Computing Engineering and Sciences,
Staffordshire University,
College Road, Stoke-on-Trent,
Staffordshire ST4 2DE, UK
Email: L.uden@staffs.ac.uk

Biographical notes: Lorna Uden is a Professor Emeritus of IT Systems in the Faculty of Computing, Engineering and Technology at the Staffordshire University. Her research interests include technology learning, HCI, big data, mobile learning, activity theory, knowledge management, web engineering, multimedia, e-business, service science and innovation, semantic web, software as a service (SaaS), internet of things and problem-based learning.

Welcome to V12N3 of *IJWET*. There are four papers in this issue. The first paper is ‘A general overview and bibliometric analysis of seven ACM hypertext and web conferences’ by Agarwal et al. The authors of this paper extracted insights on the status of conferences, conducted a series of experiments and empirical analyses to answer questions such as paper selectivity (submission and acceptance rates), number of authors per paper, most prolific authors, university-industry collaboration, scholarly output of countries, cross-country collaborations, gender gap and imbalance in authorship, contribution and degree of participation from the conference-hosting country, frequent research topics, topic evolutions and major funding agencies. In their studies, they performed in-depth bibliometric, scientometric and exploratory analysis of ACM SIGWEB sponsored conferences by visually analysing thousands of entries in the Digital Bibliography and Library Project (DBLP) database.

The results show that the articles published in SIGWEB conferences stem from a variety of countries and have an average of 2.7 authors per paper. Their findings revealed that the degree of cross-country collaboration in SIGWEB is relatively low and that most co-authors of publications are by researchers who all reside in the same country. Collectively, SIGWEB conferences have a higher hosting rate and local community participation in places that show that the participation of female researchers in SIGWEB conferences is increasing and there is an upward trend in the number of publications and collaborations authored and co-authored by women. It also shows that there is a huge gender imbalance in leadership and official conference positions. It is a pity that there are no theoretical implications from the study. What are the benefits of having the insights obtained through the data? Personally I do not see there are any insights to be gained from the analysis.

The second paper is ‘A framework to collect and extract publication lists of a given researcher from the web’ by Garcia et al. The authors of this paper describe a method used by their framework to collect and extract publication lists of a given researcher from the web. The method is composed of two tools, named Raposa – citation extractor, and Tucano – publication lists collector. Raposa uses an unsupervised method which, from a citation database and heuristics, identifies regions in the web page containing citations and the delimiters separating them. The method does not rely on any HTML format, being independent of page layout. Tucano collects publication lists by submitting queries to a web search engine and identifying in the result sets the documents that contain citations of only a given researcher, using the Raposa tool.

According to these authors, the experimental results show that their framework obtains 93.5% of F1 measure for collecting publication lists, which is a better value when compared to Google scholar. More evaluations are needed to verify its effectiveness.

The third paper is ‘Prediction of ships’ position by analysing AIS data: an artificial intelligence approach’ by Vanneschi et al. This paper is about Maritime Transport Systems (MTS). With the constant increase in maritime traffic, navigation security has become one of the most relevant and challenging issues in the maritime domain. While technological advances provide new nautical marine instruments to improve navigation safety, it is widely recognised that the human element plays the biggest role in most accidents involving modern ships.

Vanneschi et al. argue that computational intelligence (CI) systems could provide an important tool for improving maritime awareness. According to these authors, CI is one of the core concepts in the definition of an e-navigation environment. E-navigation is defined as “the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment”. The authors of this paper present a CI system based on genetic programming (GP) aimed at predicting the future position of vessels according to information provided by automatic identification system (AIS) data.

The system described in the paper combines a recently defined variant of GP that integrates semantic awareness into the search process (geometric semantic GP, hereinafter: GSGP) and a linear scaling technique. The authors argue that the system, when compared with other state-of-the-art techniques, was shown to be suitable for addressing the problem under study. Namely, the system is able to predict the correct position of different types of vessels, two hours after the last available AIS observation, with an error considered acceptable by the Portuguese Maritime Authority. More empirical data are needed to verify its effectiveness.

The last paper is ‘PVBSSS: parallel validation-based shared-state scheduler’ by He et al. According to these authors, efficient scheduling strategies, which are related to high performance and sufficient scheduling architecture, and monolithic schedulers, such as Hadoop scheduler are at risk of becoming a scalability bottleneck.

In this paper, the authors present the parallel validation-based shared-state scheduler (i.e., PVBSSS). In PVBSSS, parallel validation is implemented as the OCC algorithm to ensure strong serialisability for concurrent scheduling transactions. Furthermore, admission control and a scheduling strategy are implemented in PVBSSS to alleviate scheduling conflicts between schedulers.

According to these authors, experimental results showed that their approach results in a clear reduction in the number of scheduling error decisions and conflicts in the case of a scheduler having a long decision time. The approach also gives an additional feasible solution for OCC in shared-state schedulers and provides a solution for applying a sophisticated placement algorithm in shared-state schedulers. To validate its effectiveness, more experiments are needed. It would be useful to explore techniques for reducing the overload of scheduling low-latency jobs in the shared-state scheduler.