# Editorial

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The first paper is 'Picking the ICT technology winners – longitudinal analysis of 21st century technologies based on the Gartner hype cycle 2008–2017: trends, tendencies, and weak signals' by Jari Kaivo-oja, Theresa Lauraéus and Mikkel S. Knudsen. Accordingly, to these authors, the key research issue in this study is how Gartner's rankings data can be derived for further index calculations and how this data can be generated with new useful information for decision-makers in the field of ICT technologies.

In this paper, the authors analysed longitudinal data of the 2008–2017 Gartner hype cycles and key ICT technologies in the world. In this study, they calculated six different index analyses, which are based on the Gartner hype cycle figures and rankings from the year 2008 to 2017 using the following index analyses:

1 ranking index analysis

2 technology power index analysis

3 better than other technology power index analysis

4 triangulation index analysis

5 weak signal analysis

6 outlayer analysis.

These authors ranked the information from hype cycles giving a rank for every observed technology. By ranking the evaluations more than four times, they were able to see the top ten technologies:

1 augmented reality

2 human augmentation

3 quantum computing

4 speech recognition

5 mobile robots

6 autonomous vehicles

7 speech-to-speech translation

8 mesh network sensor

9 local-aware applications

10 idea management.

The top five most powerful technologies are surface computers, consumer telematics, mobile OTA payment, location intelligence, and enterprise 3D printing. All results are based on ten years database on the Gartner hype cycles.

The second paper is 'Fitness coach: design and implementation of a smart mirror based on automatic image recognition and action model comparison' by Yi Li, Jialiang Zhu, Yaqiong Liu and Zhi Wang. The authors in this paper have developed a smart mirror that can identify and correct people's errors during fitness activities while facing the mirror to help them perform exercises more conveniently and quickly and thus satisfy their fitness needs. The smart mirror designed and developed in this study aims to help people who cannot receive professional guidance in completing the standardisation and correction of a series of actions, such as bodybuilding, yoga, and dance. Techniques such as the establishment and recognition of the Kinect human motion model, 3D stereoscopic imaging, postural correction based on OpenCV, and the use of voice prompts have been applied to create this smart mirror. The smart mirror can display corrective images, evaluates the user's actions, and provides helpful suggestions through voice prompts when a user performs actions while facing the mirror.

These authors argue that it is based on the principles of IOT and human computer interaction. According to these authors, evaluation of the smart mirror shows that it performs well and serves as a personal trainer for users. They argue that it has significant commercial potential. More empirical studies are needed to validate the claim. The project looks like a commercial development rather than having new contributions to research in general.

The third paper is 'Predicting individual behaviour: an empirical approach in online marketing' by Sjoerd Borst, Flavius Frasincar and Vladyslav Matsiiako. This paper investigates the use and relevance of data mining techniques in the field of online direct marketing. It compares the performance of modern data mining techniques to the more widely used classic data mining technique. These authors argue that all modern techniques significantly outperform the classic methods NN and NB, in terms of accuracy. MNL performs similarly to BO and better than BA. RF performs best with an average accuracy of 70.7% and an average macro F1-measure of 66.7%, followed by SVM that has an average accuracy of 67.6% and a macro F1-measure of 62.9%. The RF model has led to a decrease in banners served, while preserving the number of sales, increasing the efficiency of online bannering. Several novel features in relation to time have also been proposed for online bannering. To validate the results, more empirical studies are required. The paper also discusses limitations of the approach and suggests further improvements.

The fourth paper is 'An integer programming-based algorithm for optimising the WS-BPEL scenario execution adaptation process' by Dionisis Margaris, Dimitris Spiliotopoulos, Apostolos Kardiasmenos and Dimitrios Pantazopoulos. According to these authors, to better serve user needs, they have adapted WS-BPEL scenarios according to the individual user requirements, by dynamically identifying and invoking those web services that best match the QoS specifications provided by the user. They present an IP-based recommendation algorithm for optimising the WS-BPEL scenario adaptation process that accommodates QoS criteria set by users/clients. The main objective is to create an algorithm that can efficiently compute the adaptations that satisfy

the QoS criteria set by users, while at the same time maintaining the optimality of the computed adaptations, i.e., guaranteeing that the computed adaptations are the optimal ones, under the specified QoS restrictions.

The proposed algorithm was experimentally evaluated both in terms of adaptation quality and adaptation computation overhead. The experimental results demonstrate that the proposed approach achieves to considerably improve adaptation speed, as compared to the exhaustive search algorithm, which is considered as a baseline, while at the same time maintaining adaptation quality. It would be good to investigate on handling of loops and conditional execution constructs in WS-BPEL scenarios through branch prediction and loop unrolling techniques as well as by gathering statistical information from prior scenario executions and using it as input to the adaptation process.