

Welcome to Issue 2 of the inaugural volume of the *PSU Research Review*. This journal is hosted by Prince Sultan University, Saudi Arabia. The Founding Editor stated that *PSU Research Review* is seriously committed to maintaining high-quality research (Yamani, 2017). As mentioned in Issue 1, this international journal will enhance global understanding of current research topics among both academics and practitioners (Nurunnabi, 2017).

Issue 2 covers computer science and engineering. This issue presents seven papers.

Recently, an audacious global cyberattack has targeted vulnerabilities in computer systems in almost 100 countries – one of the largest ‘ransomware’ attacks involving malicious software (Scott and Wingfield, 2017). In the first paper, Happa and Goldsmith (2017) investigate the description of minor variations in attacks and how and when it may (and may not) be appropriate to communicate those differences in existing attack models. They argue that using annotations appropriately should enable analysts and researchers to express subtle, but important, variations in attacks that may not fit the model of attack that is currently being used. The novelty of the study is in Happa and Goldsmith’s demonstration of how annotations may help analysts communicate and ask better questions more rapidly when identifying unknown aspects of attacks (e.g. as a means of storing mental notes in a structured manner, especially while facing zero-day attacks when information is incomplete).

The second paper, by Bejarano *et al.* (2017), argues that ‘recommender systems’ collect information about users and businesses and describes how this is done in terms of reviews and votes on reviews. They find that there is a connection between social attributes and user influence. Bejarano *et al.* (2017) also conclude that the findings are relevant in marketing, credibility estimation and Sybil detections, among others.

Fang *et al.* (2017) focus on the problem of generating actionable knowledge from big data. Because existing knowledge bases (KBs) are still far from complete and accurate, they propose a system consisting of two phases, namely, *knowledge extraction* and *truth discovery*, to construct a broader KB called ‘GrandBase’. They extract new predicates from four types of data sources, namely, Web texts, Document Object Model trees, existing KBs and query streams to augment the ontology of existing KBs (i.e. Freebase). Fang *et al.* also propose a graph-based approach to conduct better truth discovery for multi-valued predicates. Their study concludes with future research directions regarding *GrandBase* construction and extension.

The fourth paper by Segarra *et al.* (2017) stresses the importance of internet of things (IoT) applications (e.g. smart homes, smart cities and industry 4.0) for better inventory management using mainly radio frequency identification (RFID) technology. In particular, they focus on RFID technology impairment and the advantages of mature IoT technologies in respect of automatic service discovery, which will be used in our framework to make heterogeneous readers collision free while reading tags. She considers the emerging case of Industry 4.0, where RFID technology is of major interest for both identification and tracking.



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Segarra *et al.* (2017) finds that her proposal reduces significantly the number of readers' access attempts, which are resource-expensive for readers and also concludes that the objectives of DiSim are met, producing low reader collision probability, yet lower average readings per reader per time.

The next paper by Pakkar (2017) proposes the application of additive data envelopment analysis models in hierarchy grey relational analysis (GRA). He finds that the proposed approach provides a more reasonable and encompassing measure of performance in a hierarchy GRA based on which the overall ranking position of alternatives is obtained. The case study of a wastewater treatment technology selection verifies the effectiveness of his approach. Pakkar also suggests that his study is a step forward in overcoming the current shortcomings in hierarchy GRA by extracting the benefits of both objective and subjective weighting methods.

The sixth paper by Barretta *et al.* (2017) uses an innovative stress-driven nonlocal model to assess size effects in nano-beams under torsional loading conditions. They find that unlike the Eringen strain-driven nonlocal integral elastic model, which cannot be applied to nano-structures of technical interest, the stress-driven theory is mathematically consistent and useful in nanoelectromechanical applications. Barretta *et al.* conclude that the findings of their study are useful for designing and optimizing modern devices at nanoscale.

The final paper by Naser and Kodur (2017) presents the development of a three-dimensional nonlinear finite element model that can be used to evaluate the behaviour of fire-exposed steel girders and is also capable of predicting fire response of steel girders. Naser and Kodur (2017) conclude that shear capacity can degrade at a faster pace than flexural capacity under certain loading scenarios and hence, failure can result from shear effects prior to attaining failure in flexural mode.

### Vote of thanks

The journal continues to grow in submissions, and the author thanks the reviewers and editorial members. In particular, the author thanks Professor Sherali Zeadally (University of Kentucky, USA) for his hard work and patience in keeping this issue of the journal on track.

In sum, the seven papers published in this issue enhance our understanding and the author hopes the readers find them informative.

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