Special issue on “The Eighth International Symposium on Information and Communication Technology—SoICT 2017”

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Introductory text:

Since 2010, the Symposium on Information and Communication Technology—SoICT has been organized annually. The symposium has been providing an academic forum for researchers to share their latest research findings and to identify future challenges in Computer Science. In 2017, SoICT was held in Nha Trang, Vietnam, during December 7–8. The symposium covered four major areas of research including Artificial Intelligence and Big Data, Information Networks and Communication Systems, Human–Computer Interaction, and Software Engineering and Applied Computing.

Among 132 submissions from 22 countries, 64 papers were accepted for presentation at SoICT 2017. The following four papers were carefully selected, after further extension and additional reviews, for inclusion in this special issue.

The first paper, “Estimating searching cost of regular path queries on large graphs by exploiting unit-subqueries” by Van-Quyet Nguyen, Quyet-Thang Huynh, and Kyungbaek Kim presents a novel approach for estimating the searching cost of Regular Path Queries (RPQs) on large graphs with cost functions based on the combinations of the searching cost of unit-subqueries. The paper experimented on real-world datasets including Alibaba, Yago, and Freebase, as well as synthetic datasets. Experimental results show that proposed estimation method obtains high accuracy which is approximately 87% on average.

The second paper, “Identifying intentions in forum posts with cross-domain data” by Tu Minh Phuong, Le Cong Linh, and Ngo Xuan Bach presents a method to identify forum posts expressing user intentions in online discussion forums. The paper proposes to adjust the parameters of the Naïve Bayes classifier by optimizing an objective, which

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is equivalent to maximizing the between-class separation, using stochastic gradient descent. Experimental results show that the proposed method outperforms several competitive baselines on a benchmark dataset consisting of forum posts from four domains: Cellphone, Electronics, Camera, and TV.

The third paper, “English–Vietnamese cross-language paraphrase identification using hybrid feature classes” by Dien Dinh and Nguyen Le Thanh proposes a method to identify the English–Vietnamese cross-language paraphrase cases, using hybrid feature classes. These classes are calculated by using the fuzzy-based method as well as the Siamese recurrent model, and then combined to obtain the final result with a mathematical formula. Experimental results show that the proposed model achieves 87.4% F-measure accuracy.

The fourth paper, “Document representation and classification with Twitter-based document embedding, adversarial domain-adaptation, and query expansion” by Minh-Triet Tran, Lap Q. Trieu, and Huy Q. Tran proposes a novel document representation scheme with two main components. First, TD2V, a generic pre-trained document embedding for English documents from more than one million tweets in Twitter is trained, then, domain adaptation process with adversarial training is applied to adapt TD2V to different domains. To classify a document, the paper uses the rank list of its similar documents using query expansion techniques; either Average Query Expansion or Discriminative Query Expansion. Experiments on datasets from different online sources show that by using TD2V only, the proposed method can classify documents with better accuracy than existing methods.

We hope that readers interested in Information and Communication Technology will find this Special Issue a useful collection of papers.

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