

Applying information and computer technologies in various industrial sectors

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EDITORIAL

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In 2021, Science, Engineering and Health Studies (SEHS) has collaborated with the Asia Joint Conference on Computing (AJCC) to provide a platform for the authors to publish their research works on information and computer technologies that play a vital role in several industrial sectors. The four selected papers were published in 2021, Volume 15.

The process of identifying new indications for existing drugs is known as drug repositioning. For drug repositioning, similarity based on drug and disease-associated proteins can be used to demonstrate the association between drugs and diseases, between two drugs, or between two diseases. Kawichai et al. (2021) gave a thorough examination of the use of functionality-based similarities to identify the association between drugs and diseases by comparing several similarity indexes. They discovered that this method can detect the drug-disease relationship that has been studied.

Forecasting the occurrence of dengue diseases as time series models helps public health anticipate and prepare for an outbreak while lowering morbidity. Juraphanthong and Kesorn (2021) sought to enrich time series data on dengue incidence in Thailand's provinces by incorporating semantic information and knowledge from an ontology model relevant to dengue fever in order to improve the capability of time series methods and provide effective predictions for dengue incidence. They discovered that the predicted values were more accurate than the ones obtained using conventional time series approaches.

Thaenthong and Chootong (2021) used a cluster maintenance system to improve data distribution for vehicle content-centric networking (VCCN), a novel architecture for vehicular networks. The named data approach is used by the nodes in the VCCN to route packets without utilizing an IPv4/IPv6 address, hence eliminating IP/network mobility concerns. Due to the limited buffer storage and traffic load of the vehicle, vehicular clustering is required to let just one (cluster head (CH)) node from each vehicular cluster cache contents. The VCCN, on the other hand, allows for dynamic topology changes, and the CH can quit without being notified. This condition results in delivery delays and data loss. In that study, they presented a cluster maintenance system in which the secondary CH might be chosen to support the primary CH in holding temporary data during a maintenance scenario.

The technique also comprises cluster creation and cluster policies, which are used to optimize cache size in each node.

Thai weaving designs based on replication of traditional patterns with adapted patterns inspired by the designer are a means to preserve Thai textiles. Although weaving pattern designs are important for marketing Thai textiles, such as in casual clothes, it is still necessary to preserve native Thai patterns. Visutsak and Ryu (2021) categorized photos of original Thai ethnic and modified weaving designs by a convolutional neural network. The weaving images were cropped and preprocessed to binary format and the data augmentation approach was employed to expand the number of weaving patterns for training the convolutional neural network. They put the algorithm to the test in the real world by employing test patterns from Google pictures and found a high accuracy, recall, and F1 score values.

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