

SPECIAL ISSUE ON MACHINE LEARNING AND DIGITAL ENGINEERING

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ICIC Express Letters collaborate with the Asia Joint Conference on Computing (AJCC) for the third year to provide a platform for authors to publish their research works. This special issue contains seven selected articles on machine learning and digital engineering from the AJCC, held online on February 24-25, 2022. The committee of AJCC2022 decided to bring the interesting articles presented at the conference as a special issue of *ICIC Express Letters*.

Three qualified professionals review all the selected articles, ensuring the articles reach a high-quality standard. In addition, the editorial board of *ICIC Express Letters* has given another round of review. We hope this special issue encourages researchers to explore new theories and applications in computational intelligence.

Machine learning and computer intelligence are becoming more applied in everything in the recent world. The machine was trained to learn human behavior using data from everywhere, such as social media, customer feedback, human motion, sensor, and data on the Internet. The topics covered in this special issue include natural language processing (NLP), text classification, sentiment analysis, deep learning, emotion recognition, data clustering, and data security. Those techniques have been researched and developed to solve problems in many domains, such as culture, health, business, industry, and society. The selected papers are briefly described below.

A new way to tackle the price forecasting problem for predicting plastic resin price is developed using GloVe text embedding and numerical indicator analysis. In *The Implementation of GloVe Text Embeddings and Numerical Indicators Analysis for Plastic Resin Price Prediction*, the authors (Sun Sirisut and Watsawee Sansrimahachai) use pre-trained word embedding, the data from news headlines are combined and used as inputs for the artificial neural network (ANN) and recurrent neural network (RNN) models. In *The Development of a New Hybrid K-Means and Elbow Method (C-Algorithm) for Multiple Domain Clustering*, a new C-Algorithm method is developed for document clustering. The document can classify to the previous domain or create a new domain and solve the K-means problem. The authors (Panithan Mekkamol and Chatklaw Jareanpon) propose TF-IDF and BM25 weighting for feature selection and use the Elbow method to determine

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the optimal number of clusters. The proposed method is successful in distinguishing a set of documents for a new domain from another domain. Customer relationship management (CRM) is a business strategy to build long-term customer relationships. Customer opinion or customer feedback is very important for business improvement. In *The Sentiment Classification of Hotel Reviews and Hotel Description Using Feature-Based Technique for Customer Relationship Management*, the authors (Montakarn Tummawat and Chatklaw Jareanpon) present the NLP in part of data pre-processing and the customer feedback analysis process is used to identify the feedback poles of each feature. Then, extract the hotel description and match feature between the hotel description and prediction result. The security of Internet data access control is very important in the recent world. The authors (Nattavut Sriwiboon and Somnuk Puangpronpitag) of *A Novel Access Control Scheme with Immediate Revocation of Access Privileges for Named Data Networking* present a novel access control scheme to solve the problems of access control by achieving immediate revocation. The prototype of their scheme has been built on NDN-CXX version 0.7.1. The proposed mechanism can provide an immediate revocation and the computational burden for immediate revocation is less than that in previous proposals. The PHQ-9 is one of the tools used to screen for the presence and severity of depression and to monitor response to treatment. But some people may be faking to make the assessment results not true. The purpose of *Depression Analysis Using Behavior Tracking and Facial Expression Recognition during PHQ-9 Assessment* is to evaluate the results from emotional and behavioral analysis of depressed people by analyzing the relationship between the respondents' facial expression and PHQ-9 results. The authors (Natratanon Kanraweekultana et al.) use facial expression recognition pre-training model, develop the behavior tracking by user event via PHQ-9 assessment on the web, and then compare the result with specialists' opinions (psychometric) to establish a link with the implicit relationship between the system, experience, and expertise in depression screening. Defamatory messages or sentences on social networks may be cyber abuse. It can cause suicidal thoughts or even suicidal behaviors in victims. In *Using Deep Learning Model with Multiple Inputs for Thai Defamatory Text Classification on Public Facebook Comments*, the authors (Patipan Watjanapron and Orawan Chaowalit) develop deep learning models: long short-term memory (LSTM), bidirectional long short-term memory (Bi-LSTM), and convolutional neural network (CNN) to classify defamatory statements on Facebook. The CNN using Thai2fit for word embedding that combines two key feature inputs and term frequency of dictionary judgment related to seven types of defamation and part-of-speech (POS) tag provides the best result. The word segmentation of Pali (Thai) Samas by machine is novel because the Pali Samas words cannot be found in any dictionary. Pali Samas words are created by placing Pali words that contain meaning after one another without changing their morphemes or with changes in morphemes and pronunciation. In *Novel Approach to Pali Samas Segmentation Using Bidirectional Long Short-Term Memory and Rule-Based Analysis*, the authors (Klangjai Tammanam, Sajjaporn Waijanya and Nuttachot Promrit) develop Pali Samas word segmentation by using Bi-LSTM to predict the splitting locations and apply the rules obtained from Samas word segmentation to achieve correct meanings.

We sincerely thank the authors who contributed their research. Also, we express our special thanks to the reviewers for their valuable suggestions. We greatly appreciate the hard work of the Editor-in-Chief of *ICIC Express Letters*, Professor Yan Shi, which made this special issue possible.