

Foreword

Welcome to the fourth issue of 2020 for the Journal of Science and Technology (JST)!

JST is an open-access journal for studies in Science and Technology published by Universiti Putra Malaysia Press. It is independently owned and managed by the university for the benefit of the world-wide science community.

This issue contains 22 articles; a review article and the rest are regular articles. The authors of these articles come from different countries namely India, Indonesia, Iraq, Malaysia, Nigeria, Pakistan, Thailand, and UK.

A regular article titled “Predictive performance of logistic regression for imbalanced data with categorical covariate” was written by Hezlin Aryani Abd Rahman and co-researchers from Universiti Teknologi MARA and UCSI University, Malaysia. Logistic regression is often used for the classification of a binary categorical dependent variable using various types of covariates which is continuous or categorical. They investigated the effect of imbalanced data measured by imbalanced ratio on the parameter estimate of the binary logistic regression with a categorical covariate. The simulation results provided evidence that the effect of imbalance ratio on the parameter estimate of the covariate decreased as sample size increased. Detailed information on this study can be found on page 1141.

The next article is on fast and robust diagnostic technique for the detection of high leverage points by Habshah Midi et al. from Universiti Putra Malaysia and a co-author from University of Al-Qadisiyah, Iraq. The existing Diagnostic Robust Generalized Potential based on Minimum Volume Ellipsoid is quite successful in identifying high leverage points, but its running time is very slow. The Diagnostic Robust Generalized Potential based on Index Set Equality running time was much faster than the Diagnostic Robust Generalized Potential based on Minimum Volume Ellipsoid. However, the Diagnostic Robust Generalized Potential based on Index Set Equality was not computationally stable and still possessed masking and swamping effect. Contrarily, the proposed Diagnostic Robust Generalized Potential based on Reweighted Fast Consistent and High Breakdown was very successful in detecting HLPs with negligible swamping effect. Full information on this study is presented on page 1203.

Athraa Jasim Mohammed and Khalil Ibrahim Ghathwan from University of Technology, Baghdad, Iraq had proposed a new method for color image-based segmentation using whale optimization algorithm in clustering. Comparison of the proposed method was performed with the wolf color image-based segmentation, cuckoo color image-based segmentation, bat color image-based segmentation, and k-means color image-based

segmentation over four benchmark color images. Experimental results demonstrated that the proposed whale color image-based segmentation had higher value of Peak Signal to Noise Ratio and lower value of Root Mean Squared Error in most cases compared to other methods. Further details of the article are available on page 1389.

We anticipate that you will find the evidence presented in this issue to be intriguing, thought-provoking and useful in reaching new milestones in your own research. Please recommend the journal to your colleagues and students to make this endeavour meaningful.

All the papers published in this edition underwent Pertanika's stringent peer-review process involving a minimum of two reviewers comprising internal as well as external referees. This was to ensure that the quality of the papers justified the high ranking of the journal, which is renowned as a heavily-cited journal not only by authors and researchers in Malaysia but by those in other countries around the world as well.

We would also like to express our gratitude to all the contributors, namely the authors, reviewers, Editor-in-Chief and Editorial Board Members of JST, who have made this issue possible. JST is currently accepting manuscripts for upcoming issues based on original qualitative or quantitative research that opens new areas of inquiry and investigation.

Chief Executive Editor

Dato' Dr. Abu Bakar Salleh

executive_editor.pertanika@upm.edu.my