Foreword

Welcome to the second issue of 2026 of the Pertanika Journal of Science and Technology (PJST)!

PJST 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 27 articles: two review articles and the rest are regular articles. The authors of these articles come from different countries namely Bangladesh, China, India, Indonesia, Iraq, Kazakhstan, Malaysia, Nigeria, United Arab Emirates, United Kingdom, USA, and Vietnam.

The article entitled "FCA_UNet: An Enhanced UNet with Feature Coordination Attention for Wheat Leaf Disease Severity Assessment" presents a significant advancement in precision agriculture through the development of a robust deep learning framework for disease detection. Addressing the limitations of conventional segmentation models, the study integrates attention mechanisms and multi-scale feature fusion to enhance the detection of small and complex lesion patterns under challenging environmental conditions. The incorporation of lightweight backbone architecture further ensures computational efficiency, making the model suitable for deployment on resource-constrained agricultural devices such as drones and portable monitoring systems. The model achieved an impressive 89.85% mIoU, representing a substantial improvement over traditional UNet architectures, while also reducing parameter complexity. This contribution is particularly relevant in supporting early disease detection, minimising crop losses, and promoting sustainable agricultural practices through intelligent monitoring systems. Further details of this study can be found on page 1181.

The issue also features the article titled "An Interpretable Random Forest with SHAP Explanations for Multiclass Skill Level Classification Model in Malaysia's Labour Market," which underscores the growing importance of explainable artificial intelligence in socio-economic analysis and policymaking. While machine learning models are widely recognised for their predictive capabilities, their lack of interpretability often limits their practical adoption in policy contexts. This study addresses this challenge by integrating Random Forest with SHapley Additive exPlanations (SHAP), enabling both high predictive performance and transparent interpretation of key influencing factors. Using a large-scale dataset from Malaysia's labour market, the model achieves strong classification performance while identifying critical determinants such as education level, wages, and employment activity. The incorporation of interpretability not only enhances trust in the model but also provides actionable insights for policymakers in designing targeted interventions

for workforce development and human capital planning. This research represents a meaningful step towards bridging the gap between advanced analytics and practical decision-making in national policy frameworks. Further detailed information can be found on page 1203.

Another noteworthy contribution is the article entitled "Development of an Indoor Testing Facility to Standardise the Analysis of UAV Spraying Efficacy," which addresses critical gaps in agricultural mechanisation and pesticide application technologies. The study introduces an innovative indoor experimental facility specifically designed to simulate UAV spraying conditions in a controlled and repeatable environment. By enabling precise monitoring of rotor-induced airflow, droplet formation, and spray deposition patterns, the facility provides a reliable platform for evaluating the performance of UAV systems under varying operational parameters such as flight speed, payload, and nozzle configuration. This standardisation is particularly important given the inconsistencies associated with traditional field-testing methods. The proposed facility not only enhances the accuracy and reproducibility of experimental results but also contributes towards safer pesticide application, reduced environmental contamination, and improved efficiency in large-scale agricultural operations. As UAV technology continues to gain prominence in precision farming, advancements play a crucial role in bridging the gap between experimental research and real-world implementation. Full details of this study are available on page 1265.

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 and Editorial Board Members of PJST, who have made this issue possible.

PJST is currently accepting manuscripts for upcoming issues based on original qualitative or quantitative research that opens new areas of inquiry and investigation.

Editor-in-Chief
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