Foreword

Welcome to the second issue of 2025 for 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 25 articles: four review articles; and the rest are regular articles. The authors of these articles come from different countries namely Australia, Bangladesh, Indonesia, Japan, Malaysia, Nigeria and Pakistan.

A review article that we wish to highlight is on the 5G patent landscape by Mohammad Sadegh Naghipour and Zulhasni Abdul Rahim from Universiti Teknologi Malaysia. The fifth generation of mobile networks (5G) is a crucial development in cellular technology, and 5G patents play a key role in helping telecommunications companies remain competitive and maintain their market position. This review analyzes the 5G patent landscape, considering technological, scientific, and financial aspects. The analysis uses Questel's Orbit Insight software to identify key patterns in patent applications, major industry players, and implications for technological standards and market competition. 5G patents are expected to continue driving innovation, influencing market dynamics, shaping industrial competitiveness and setting technological standards. Understanding patent strategies is essential for businesses and legislators to navigate the rapidly evolving 5G ecosystem. Future research could investigate the effects of emerging technologies and legislative changes on patent portfolios while monitoring trends in 5G patents and their impact on the industry. The detailed information of this study is available on page 693.

Another review article titled "Machine Learning (ML) Applications in Multiplayer Online Battle Arena (MOBA) Esports" was presented by Ahmad Alif Kamal et al. from Malaysia. ML has gained significant attention in esports, particularly in MOBA games like Defence of the Ancients 2 (DotA 2) and League of Legends (LoL), which generate abundant data. The application of ML in MOBA is a promising area for research, with the esports industry growing rapidly and stakeholders seeking innovative studies. A systematic review was conducted using the PRISMA method by searching databases such as Scopus, Web of Science, PubMed, ScienceDirect, and Google Scholar. A total of 35 peer-reviewed studies were analyzed, focusing on ML applications for MOBA. These studies primarily used algorithms like random forests, decision trees, and neural networks to predict various aspects of gameplay using player data. The results showed strong performance of ML models and highlighted potential future research in mobile-based MOBA, commercialization opportunities, and addressing challenges related to data access and regional differences. The detailed information of this study is available on page 765.

The next article investigates the virus particle dispersion and infection risk assessment in aircraft cabins using the computational fluid dynamics (CFD) approach. It investigated the effects of virus source location and particle size on particle dynamics and infection risk, focusing on particle deposition on surfaces such as passenger bodies and seats. The study revealed that airflow in the cabin was nearly symmetric around the aisle, with slight asymmetry due to the location of a coughing passenger. Most particles were either deposited on surfaces or removed through the ventilation system within 10 minutes. The source location and particle size influenced particle deposition and removal dynamics, with larger particles being affected by gravity. The particles primarily spread within the row of the source and the two rows ahead. The infection risk assessment showed a higher risk for passengers seated directly in front of the virus source and those seated on the same side of the aisle. The detailed information of this study is available on page 969.

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
Luqman Chuah Abdullah