

Editorial

We are pleased to bring the second issue of the seventeenth volume of the **Journal of E-Technology** with the following papers.

In the first paper, “**Predicting Student Academic Performance Through Behavioural Engagement Metrics: A Random Forest-Based Machine Learning Approach**”, the authors used a Random Forest-based machine learning framework to predict student academic performance from behavioural engagement metrics in e-learning environments. They used three predictive models Linear Regression, Random Forest, and Multilayer Perceptron neural networks to forecast final academic grades categorized into four ordinal levels. The results conclude that modifiable learning behaviors, rather than static demographic characteristics, drive academic outcomes.

In the next paper, “**Global Airport Disruption Risk Assessment: A Data-Driven Analysis of Operational Vulnerabilities during the 2026 US-Iran War Using the Disruption Impact Index and K-means Clustering**,” the authors presented a data-driven assessment of global airport disruption risks, analysing 76 disruption events across 26 airports spanning five global regions: the Middle East, South Asia, Europe, the Asia Pacific, and North Africa. The authors introduced a new Disruption Impact Index (DII) to measure operational consequences by integrating three core variables: severity level (scored 1–5), disruption duration (in hours), and the number of affected flights. The results explain 78–82% of total variance, validating the multidimensional nature of disruption risk.

In the last paper, “**Smart IoT Technologies for Environmental and Water Resource Monitoring: A Structured Review**,” the authors reviewed the application of IoT across urban infrastructure, water resource management, and smart buildings. The authors used a four layer conceptual architecture comprising sensing, communication, data processing, and application layers to structure these systems. The paper concludes that while IoT-driven systems offer immense potential for sustainable resource management and smart city development, realizing this potential requires overcoming technical fragmentation.

We hope that the research presented in this issue highlights hot topics in digital technology.

Editors