

Editorial

We release the second issue of the eighteenth volume of the **International Journal of Web Applications** with the research outlined below.

In the opening paper, “**Forecasting Analysis of Online Learning Activity Using Machine Learning Models**,” the authors outlined a machine-learning-based forecasting framework to predict trends in online learning activity using a COVID-19 dataset. This dataset used an integrated approach combining Random Forest Regression, Extreme Gradient Boosting (XGBoost), and Support Vector Regression (SVR) for both single-country and simultaneous multi-country forecasting, with comparative benchmarking. The results showed that XGBoost achieved superior forecasting performance due to its gradient-boosting optimisation capabilities and nonlinear feature-learning efficiency. The author outlined the feasibility of AI-driven educational forecasting for large scale educational trend monitoring, digital infrastructure planning, and intelligent online learning analytics.

In the subsequent paper, “**Requirement Traceability and Intelligent Test Selection for Industrial IoT Systems**”, the authors outlined a requirement-aware intelligent regression test prioritization framework designed to enhance fault detection efficiency and testing scalability in IIoT environments. They used a combination of requirement traceability analysis, multi-factor prioritisation scoring, and optimisation-driven test selection to dynamically order regression test cases based on fault detection capability, execution time, requirement criticality, and interface complexity. The findings establish a robust, scalable methodology for intelligent IIoT regression testing that supports requirement traceability, adaptive prioritization, and statistically verified performance gains.

In the last paper, “**Predictive AI Frameworks for Digital Inclusion, Infrastructure Maturity, Data Accessibility, and Identity System Effectiveness: A Unified Framework**,” the authors presented a unified, journal-ready predictive artificial intelligence (AI) framework that integrates machine learning, deep learning, explainable AI, federated learning, and multi-criteria decision analysis (MCDA) techniques to enable a comprehensive assessment of digital transformation. The framework used ten interconnected predictive architectures into a coherent analytical pipeline that forecasts digital inclusion trends, infrastructure readiness, accessibility inequalities, and the effectiveness of national digital identity. The model reflected country-level forecasting, inequality detection, infrastructure maturity classification, governance optimization, and long-term strategic policy simulation. Further, the author outlined statistical analyses, visualisation strategies, geospatial mapping, and dashboard architectures that can be generated from the framework.

We hope that these papers mark new, innovative research in web applications.

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