EDITORIAL

Smart Systems, Sustainable Technologies, and Data-Driven Innovation

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Volume 5, Issue 2 of the *Ingenious Journal* gathers research papers that address the complex realities of our time, including rapid technological transformation, rising environmental challenges, and the global need for intelligent, data-driven, and sustainable solutions. Under the unifying theme **"Smart Systems, Sustainable Technologies, and Data-Driven Innovation,"** this volume highlights the creativity, analytical depth, and practical contributions of our students and academic staff as they explore emerging technologies and their transformative impact on society.

Each article in this issue sheds light on a distinct dimension of technological progress and its role in addressing real-world challenges.

- The study "AI-Based Automated Traffic Monitoring System for Vehicles and License Plate Recognition" introduces a deep learning–powered framework for intelligent traffic surveillance, addressing technical, ethical, and infrastructural considerations relevant to modern urban mobility.
- The article "Strengthening Web Application Security through Email Verification and JWT Authentication" delivers a scalable cybersecurity solution designed to reinforce digital trust and improve user protection across web platforms.
- Another contribution, "Designing and Implementing a High-Availability Infrastructure for a Web Application on AWS," develops a resilient cloud architecture that ensures reliability, scalability, and performance in dynamic digital environments increasingly dependent on uninterrupted service delivery.

- The work "Prediction of Spot Instance Prices in AWS: An Automated Solution for Cost Optimization" presents a Machine Learning model that forecasts cloud resource pricing, enabling organizations and startups to optimize operational costs through data-driven decision-making.
- In the article "The Role of Trade Flows in Shaping Macroeconomic Indicators: A Big Data Approach for Albania," advanced econometric models and large-scale datasets are used to analyze how trade openness influences macroeconomic performance in emerging economies.
- The engineering paper "Solar Driven Fan Unit for a Solar Dryer" introduces a photovoltaic-powered solution that improves agricultural drying processes—an example of sustainable technology that leverages renewable energy for practical, community-level impact.
- "Design and Development of a Mobile App for Public Security and Emergency Alerts in Albania" develops a unified alerting system designed to improve public safety through real-time warnings, institutional coordination, and user-centered digital interfaces.
- An additional contribution, "Artificial Intelligence and Automation in Customer Service: Optimizing Interactions and Operational Efficiency," presents an integrated AI-CRM framework that enhances service responsiveness, reduces manual workload, and demonstrates how intelligent automation can strengthen customer experience in creative industries.
- The study "Analysis and Development of Data Validation Tools in Financial Systems: Case Study on Investment Funds" highlights how automated validation mechanisms improve data accuracy, regulatory compliance, and decision-making reliability in financial markets.

Together, these contributions embody the spirit of innovation at the intersection of smart technologies, sustainable solutions, and data-driven approaches. They demonstrate how interdisciplinary collaboration across engineering, informatics, economics, and design, can generate systems that are more intelligent, resilient, and aligned with global technological and environmental priorities.

The topics addressed in this volume are increasingly critical to our technological, environmental, and societal future. The articles collectively highlight the pressing need to advance research in smart systems, sustainable technologies, and data-driven innovation, fields that play a decisive role in shaping resilient, efficient, and forward-looking societies.