Editorial

In this issue, we are pleased to present a collection of 8 research papers that span a wide spectrum of disciplines, each offering profound insights into complex challenges and innovative solutions that are shaping our world.

The integration of distributed energy resources has brought about a paradigm shift in power systems, accompanied by a myriad of challenges. This pioneering research delves into the intricate dynamics of voltage fluctuations and power losses induced by the proliferation of solar systems and electric vehicle chargers. By introducing a robust methodology centered around Permitted Percentage (PP) allocation, the authors pave the way for enhanced grid resilience and optimized energy management strategies. With the looming surge in electric trucks, the relevance of this model becomes even more pronounced, promising to navigate the evolving landscape of electric transportation seamlessly [1].

Alzheimer's disease, an irreversible neurodegenerative affliction, poses significant challenges in early detection and classification. Leveraging deep learning models, particularly a double-enhanced CNN incorporating attention mechanisms and generative adversarial networks, this study achieves remarkable strides in the accurate classification of Alzheimer's stages. With a stellar performance of 99%, this enhanced model not only surpasses existing approaches but also underscores the potential of AI-driven solutions in revolutionizing healthcare diagnostics [2].

CPR stands as a cornerstone in combating cardiac emergencies, yet its effective administration remains elusive for many. Through the innovative utilization of Azure Kinect DK for body tracking, this study sheds light on the nuanced mechanics of CPR, elucidating the impact of posture variations on its efficacy. By providing quantitative insights into joint angles, this research lays the groundwork for precision CPR training programs, empowering individuals to respond effectively in critical situations [3].

This comprehensive study offers a chronological overview of royal development projects spearheaded by King Rama IX, unravelling their spatial distribution patterns and socio-economic implications. Employing a mixed-methods approach, the research not only highlights the breadth and depth of these initiatives but also underscores their transformative impact on marginalized communities across the nation. Furthermore, the development of a virtual learning platform ensures the dissemination of research findings to diverse audiences, fostering a deeper understanding of Thailand's developmental trajectory [4].

Robo-advisors, emblematic of financial innovation, continue to evolve amidst rapid technological advancements. Drawing on historical data and emerging trends, this study offers strategic recommendations for the robo-advisory industry, emphasizing the integration of AI-driven portfolio optimization and natural language processing capabilities. As the financial landscape undergoes unprecedented transformations, these insights serve as guiding beacons for industry stakeholders navigating the digital frontier [5].

The imperative of data security and privacy in healthcare settings cannot be overstated. Through an in-depth analysis of privacy concerns surrounding eHealth systems, this study underscores the critical need for robust security measures and user awareness initiatives. By engaging medical practitioners in N. Macedonia, the research sheds light on existing challenges and underscores the urgency of addressing usability concerns to bolster trust in eHealth technologies [6].

Addressing the dual imperatives of sustainability and infrastructure development, this study proposes innovative solutions for road pavement construction utilizing waste materials and novel fabrication techniques. By leveraging waste engine oil, recycled concrete aggregate, and Buton Rock Asphalt, the research offers a cost-effective and eco-friendly alternative for road infrastructure, catering to light to medium-traffic loads while minimizing environmental impact [7].

Against the backdrop of global efforts towards sustainable development, Malaysia emerges as a key player in shaping regional energy landscapes through its renewable energy policies. This paper provides a comprehensive analysis of Malaysia's renewable energy framework, highlighting its implications for regional energy security and cooperation. As Malaysia strides towards a greener future, its endeavours reverberate across Southeast Asia, fostering collaboration and sustainability [8].

In conclusion, the diverse array of research presented in this issue underscores the interdisciplinary nature of contemporary challenges and the transformative potential of innovative solutions. We extend our gratitude to the authors, reviewers, and readers whose contributions continue to enrich scholarly discourse and inspire progress across myriad domains.

References:

[1] R.Z.A. Ahmadian, C. Zhang, S.N. Gowda, K. SedghiSigarchi, R. Gadh, “Optimal Engagement of Residential Battery Storage to Alleviate Grid Upgrades Caused by EVs and Solar Systems,” Advances in Science, Technology and Engineering Systems Journal, **9**(2), 1–8, 2024, doi:10.25046/aj090201.

[2] P.C. Wong, S.S. Abdullah, M.I. Shapiai, “Double-Enhanced Convolutional Neural Network for Multi-Stage Classification of Alzheimer’s Disease,” Advances in Science, Technology and Engineering Systems Journal, **9**(2), 9–16, 2024, doi:10.25046/aj090202.

[3] T. Yamakami, A. Minaduki, “Analysis of Components and Effects of Chest Compression Posture using CPR Training System,” Advances in Science, Technology and Engineering Systems Journal, **9**(2), 17–25, 2024, doi:10.25046/aj090203.

[4] P. Jongkroy, P. Limlahapun, “Spatial Distribution Patterns of the Royal Development Projects Initiated by King Rama 9th of Thailand,” Advances in Science, Technology and Engineering Systems Journal, **9**(2), 26–32, 2024, doi:10.25046/aj090204.

[5] M. I. Bonelli, J. Liu, “Revolutionizing Robo-Advisors: Unveiling Global Financial Markets, AI-Driven Innovations, and Technological Landscapes for Enhanced Investment Decisions,” Advances in Science, Technology and Engineering Systems Journal, **9**(2), 33–44, 2024, doi:10.25046/aj090205.

[6] V. Denkovski, I. Stojmenovska, G. Gavrilov, V. Radevski, V. Trajkovik, “Exploring Current Challenges on Security and Privacy in an Operational eHealth Information System,” Advances in Science, Technology and Engineering Systems Journal, **9**(2), 45–53, 2024, doi:10.25046/aj090206.

[7] S.P. Hadiwardoyo, R.H. Lumingkewas, T. Iduwin, S.N. Rudrokasworo, D. Matthew, “Buton Rock Asphalt Paving Block Innovation using Waste Engine Oil and Recycled Concrete Aggregate,” Advances in Science, Technology and Engineering Systems Journal, **9**(2), 55–66, 2024, doi:10.25046/aj090207.

[8] W. Leong, L. Heng, Y. Leong, “Malaysia’s Renewable Energy Policy and its Impact on ASEAN Countries,” Advances in Science, Technology and Engineering Systems Journal, **9**(2), 67–73, 2024, doi:10.25046/aj090208.

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