Foreword

Dear Readers, Contributors, and Colleagues,

It is with immense pride and enthusiasm that I introduce the third issue of the *Journal of Artificial Intelligence and Computing Applications* (JAICA). As we continue our journey into this new year, this issue represents another significant step forward, showcasing the depth and diversity of scholarship that defines our publication.

This issue features a special collection of contributions, including two conference reports, two critical perspectives, one original research article, and two exploration papers. Among these, I would like to highlight an extraordinary inclusion: a critical perspective published in both English and Spanish. This bilingual presentation, an exception to our usual format, underscores the relevance and societal impact of the article titled *"The Role of AI in Combating Mistletoe Infestation in Mexican Forests."* By publishing it in Spanish, we aim to ensure accessibility to the local audience, as the article addresses the mistletoe infestation issue specific to Mexico. At the same time, the English version extends its reach and fosters dialogue across a broader audience, emphasizing the global significance of the intersection between AI and ecological conservation. Each article embodies the spirit of JAICA by exploring real-world challenges through the lens of cutting-edge AI technologies.

Complementing these articles are two conference reports, which offer an in-depth look at the *32nd International Conference on Case-Based Reasoning (ICCBR) 2024* and the *2024 International Conference on Artificial Intelligence for Mental Health (ICAIMH).* These reports provide insights into groundbreaking discussions, emerging trends, and collaborative opportunities in AI-driven research and its applications in mental health and socio-ecological domains.

We are also proud to present an original research article titled *"An Explainable Clustering-Based Approach for Cyber Situational Awareness on Masquerade Attacks Detection."* This study proposes a novel and interpretable methodology that combines optimized clustering algorithms with noise reduction techniques to improve intrusion detection in cybersecurity. The results point to a significant step forward in enhancing Cyber Threat Intelligence by bridging performance and explainability.

In our *Applied AI Exploration Papers (AAIEP)* section, we feature two compelling contributions. The first, *"A Deep Learning Approach for Automated Identification of Triatoma infestans Using YOLOv8,"* demonstrates how AI can support public health by automating the detection of *T. infestans*, the insect vector of Chagas disease. The

second, *"An Exploratory Application of Empirical Mode Decomposition and Recurrent Neural Networks for Meteorological Time Series Prediction,"* presents a hybrid forecasting model using EMD and LSTM to better predict weather variables in the tropical region of Mérida, Yucatán. Both papers highlight the versatility of AI in tackling domain-specific challenges and the importance of early-stage prototypes in shaping future innovation.

I extend my heartfelt gratitude to the dedicated editorial team and reviewers, whose expertise ensures the highest standards of quality; and to the sponsors and collaborators, including Maikron, for their unwavering support. Finally, I thank our readers for their continued interest and engagement, which inspires us to push the boundaries of AI and computing applications.

As we look ahead, JAICA remains committed to its mission of fostering a collaborative and inclusive platform for AI research with real-world impact. Together, we will continue to explore the limitless possibilities of artificial intelligence and its transformative potential.

Warmest regards,

Mauricio G. Orozco-del-Castillo

Editor-in-Chief

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