

FOREWORD

We express our gratitude for publishing the first volume and issue of the International Journal of Computer Science and Humanitarian AI (IJCSHAI). The release of this edition Vol. 2 No. 2 October 2025 marks an essential step in disseminating the latest knowledge and research in computer science and the application of artificial intelligence for humanitarian purposes. In this edition, the authors present six research articles covering various exciting and relevant topics, including:

1. **Design and Implementation of Chatbot Pancasila for Teaching Pancasila and Character Building for University's Students**—This research developed a Pancasila Character Building Chatbot based on Natural Language Processing (NLP) to help students understand Pancasila values interactively and contextually. This chatbot was designed to increase enthusiasm for learning, creativity, and understanding of Pancasila-based character in higher education environments.
2. **Adaptive Gradient Compression: An Information-Theoretic Analysis of Entropy and Fisher-Based Learning Dynamics**— This study examines Adaptive Gradient Compression (AGC) to reduce gradient redundancy in deep neural network training without compromising learning stability. Results on the CIFAR-10 dataset show that entropy- and Fisher-based methods can reduce gradient density by up to 33.8× with minimal accuracy loss, confirming the efficiency of information-based learning.
3. **Developing Intelligent GeoDashboard Platform for the Downstream of Nickel, Bauxite, Cobalt, and Silica: Systematic Literature Review**—This study discusses Indonesia's abundant mineral resources, such as nickel and bauxite, which are managed through downstream policies that require domestic processing to increase economic value. A systematic review shows that strong regulations, technology, and platforms such as *PetaHilirisasi* can improve efficiency, sustainability, and value creation in Indonesia's mineral industry.
4. **The Utilization of Generative AI in Designing Data Analytics and Visualization Workshop (Case Study: GDGoC at Universitas Negeri Malang)**—This study highlights the role of Generative AI in designing the Data Analytics and Visualisation workshop at GDGoC Malang State University, which improved the efficiency and quality of the activities. Despite challenges such as dependency and content validation, the role of humans remains important in maintaining the accuracy and relevance of the results.
5. **Implementation of Random Forest Algorithm in Handling Imbalanced Data: A Study on Default Models and Hyperparameter Tuning**— This study compares Random Forest and Gradient Boosting algorithms in handling data imbalance for diabetes prediction using a dataset from Kaggle. The results show that both models achieve high accuracy above 97%, with Gradient Boosting being more balanced in sensitivity and precision, emphasising the importance of selecting algorithms according to medical needs.
6. **Obstacle Avoidance Method using Stereo Camera for Autonomous Robot**—This research developed a stereo camera-based obstacle avoidance system so that robots can autonomously detect and avoid obstacles. Using regression models and object recognition algorithms, the robots successfully determined their direction of movement and manoeuvred effectively in various test scenarios.

We hope this inaugural edition can make a meaningful contribution to the advancement of science, particularly in the fields of computer science and artificial intelligence. We extend our sincere thanks to everyone who contributed to the publication of this journal, especially the authors, editorial team, and peer reviewers. We hope the articles in this journal prove useful and serve as valuable references for researchers.

Jakarta, October 30th 2025

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Editor in Chief of IJCSHAI

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