Guest Editorial Preface

Special Issue on Sustainable Development in Computational Intelligence and Computer Vision

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Computational Intelligence is a field of computer science that deals with the design and development of intelligent computer systems. It encompasses a wide range of techniques, including artificial intelligence, fuzzy systems, and evolutionary computation. It has been successfully applied to many real-world problems, such as image recognition, pattern classification, and decision-making. On the other hand, Computer Vision extracts significant knowledge from images, videos, and other visual inputs. This knowledge can be further utilized to provide recommendations or take appropriate actions.

The focus of this special issue is on research papers that address issues related to sustainable development from a computational intelligence or computer vision perspective. We encouraged submissions from researchers working in all areas of computational intelligence and computer vision, including but not limited to machine learning, artificial intelligence, image processing, pattern recognition, data mining, knowledge discovery, optimization, and control theory. The goal of this special issue is to promote research and applications that contribute to advances in computational intelligence and computer vision for sustainable development. We hope that this will help to foster a greater understanding of how these technologies can be used to improve both our understanding of sustainability issues and our ability to address them effectively.

The field of computational intelligence is constantly evolving; new methods are being developed all the time to solve more challenging problems. As a result, sustainable development in computationally intelligent systems will be an important topic for future research publications in this field. The use of computational intelligence can help to reduce the overall environmental impact of a project or company. By optimizing resources and processes, computational intelligence techniques can help projects or companies to become more efficient and thus reduce their environmental impact. Additionally, by improving decision-making processes, computational intelligence applications can lead to better outcomes for all parties involved. In addition, computational intelligence can help organizations become more resilient and adaptable to change, ensuring long-term sustainability. Overall, the implementation of computational intelligence has many benefits for both society and organizations alike – it is an important tool in achieving sustainable development goals.

Computer vision can be used to help identify and track environmental problems. By using computer vision, we can monitor environmental conditions in real-time and make informed decisions

about how to best protect our environment. It can be used to help monitor and manage resources. By tracking the use of natural resources, we can ensure that these assets are managed responsibly and do not go waste. It can also be used to help create awareness of sustainability issues. By providing a visual representation of our surroundings, computer Vision can help us better understand the impact our actions have on the environment. In addition, computer vision can help in evaluating the impact of human activity on the environment. By tracking changes in environmental conditions over time, we can better assess how human activities affect ecosystems across various scales (micro-to-macro). In conjunction with other computational intelligence methods, computer vision could play an important role in developing more sustainable practices.

The field of computational intelligence and computer vision has seen several advances in recent years, particularly in the area of sustainable development. These advances hold great promise for helping to achieve sustainable development goals, such as reducing greenhouse gas emissions and protecting natural resources. However, it is important to note that these advances are still in their early stages of development, and more research is needed to further refine them before they can be widely implemented. Several new techniques and approaches have been developed that can help to improve the efficiency and effectiveness of computational processes while also reducing their impact on the environment. Some of the most promising advances in this field include new methods for energy-efficient computing, resource management, and data analysis.

Deep Learning can be used to automate transport systems by reducing traffic congestion and pollution. By automating transport systems, we can free up time for people to pursue other activities and reduce accidents caused by human error. Automated transport systems can also help reduce the cost of transportation, which in turn helps us save money overall. Finally, automated transport systems can help us move toward a more sustainable future by reducing our dependence on fossil fuels.

However, there is still much to be done in terms of research into sustainable development in these fields. For example, further research is needed into how to optimize algorithms while taking into account environmental factors such as energy consumption or resource depletion. Additionally, more attention needs to be given to ethics and social responsibility when designing AI systems; proper consideration of these issues will ensure that we generate benefits without harming people or ecosystems adversely. As with any new technology or field of study, sustainable development will have a significant impact on computing as a whole – paving the way for even more powerful AI applications that help us meet our global challenges sustainably. The need for sustainable development in computational intelligence and computer vision is evident.

The below-mentioned five papers in this special issue provide a valuable contribution to the field of sustainable development using computational intelligence and computer vision:

- Monitoring the Land Use Land Cover Changes Using Machine Learning Techniques
- Content-Based Music Recommendation Using Non-Stationary Bayesian Reinforcement Learning
- Comparison of Garbage Classification Frameworks Using Transfer Learning and CNN
- Diagnosing Brain Tumor Using Super-Resolution Generative Adversarial Network Model
- Comparative Analysis of Artificial Neural Networks and Deep Neural Networks for the Detection of Dementia

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