

An Editorial

Challenges, Risk & Limitations of AI in Sustainable Process Development

Artificial Intelligence and allied technologies such as machine learning, deep learning, robotics are dedicated sustainable development and entire process of sustainability empowering with optimization, enhancing circular economy systems. As far as material discovery is concerned AI is helpful and empowering sustainable development process with transformative potential, effective optimization process, reaching the environmental goals. AI and Machine Learning is effective in data driven decision making, energy management, proper agricultural systems, environmental monitoring and management. Effective AI based mechanism is dedicated in educational process and transmission, smart grid management systems, effective and decision based precision farming, advanced governance systems, smart manufacturing units, etc. Though there are many advantages and significance of sustainable development process but at the same time some of the challenges, risks, and issues in sustainable development process which include high energy consumption i.e. uses of the massive computational power, increase of the green house gas (GHG), requirement of the vast amount of data of water cooling is important to look into, the growing applications of the ICT and AI increases the electronic devices worldwide and it is leading.

Experts suggest that AI based products also depends on resource extraction and rare minerals of the earth and this is also leading to disbalancing of soil and soil health. As far as technical aspects are concerned major problems are with data quality management, decision taken from the poor data based on trained data. Moreover as AI and allied technologies are depends on black box therefore it has some problem including transparency, accountability, and some aspects of governance. Results also reveals that use of AI in Sustainability also requires a good amount of cost and managing cyber security, bias in algorithms, gap in skill assessments, unwillingness to the change.

Chief Editors

Dr. P.K. Paul, *PhD (IIEST Shibpur), DSc. & DTech (UA Mexico)*
Executive Director, MCIS & Assistant Professor
Dept. of Computer & Information Sciences & Information Scientist
(Offg.)
Raiganj University, West Bengal, INDIA

Dr. Ricardo Saavedra Hidalgo, *PhD, D.Ed., FISROSET*
Director & Chair,
International Programs
Azteca University,
Barrio San Antonio, México, North America