Submission Summary

Conference Name	International Conference on Artificial Intelligence and Sustainable Innovation - 2025
Track Name	Track 13: Session on Artificial Intelligence for Sustainable Innovation: Transforming Industries and Communities
Paper ID	1149
Paper Title	AI-Driven Approaches for Climate Change Mitigation and Environmental Sustainability
Abstract	Climate change is a global crisis for all of us with far-reaching consequences, including rising temperatures, extreme weather events, and biodiversity loss. In India, deforestation and carbon emissions exacerbate environmental challenges, necessitating the development of innovative mitigation strategies. This paper explores the potential of Artificial Intelligence (AI) and Machine Learning (ML) in addressing climate change through forest conservation and carbon sequestration. By leveraging deep learning, geospatial analytics, and predictive modeling, we present an AI-driven framework that monitors forest health, predicts deforestation patterns, and optimizes afforestation strategies. Our approach integrates satellite imagery, soil composition data, and climate records to enhance the accuracy of forest carbon stock estimation. Experimental results demonstrate that AI-based predictive models significantly improve reforestation planning and ecosystem sustainability. This study contributes to the growing field of AI for climate resilience by offering a scalable, data-driven solution for environmental conservation in the Indian subcontinent.
Created	4/18/2025, 3:50:47 PM
Last Modified	4/18/2025, 3:50:47 PM
Authors	**Riya Singh** (IEEE) <riya0502singh@gmail.com> Mrityunjay Chauhan (Apex Institute of Technology, Chandigarh University) <mrityunjayc2022@gmail.com> Deepavali Mukherjee (Apex Institute of Technology, Chandigarh University) <deepavali.mukherjee@gmail.com> Priyanka Nanda (Apex Institute of Technology, Chandigarh University) <priyanka.e16695@cumail.in>
Submission Files	AI-Driven Approaches for Climate Change Mitigation and Environmental Sustainability.pdf (323.5 Kb, 4/18/2025, 3:50:24 PM)