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Flood Forecasting System Using Federated Learning

P. Ashwitha, K. Mounika,C. Manoj Kumar Raju, Dr. Nuthanakanti Bhaskar
Department of Computer Science and Engineering
CMR Technical Campus, Kandlakoya, Medchal - Malkajgiri, India

Abstract: *Floods are among the most destructive natural disasters affecting millions worldwide. This paper proposes a federated learning-based flood forecasting system that enables decentralized model training while preserving data privacy. The system integrates environmental data such as rainfall, river levels, humidity, and temperature with machine learning and deep learning models including FFNN and CNN2D. The federated approach improves scalability, reduces communication overhead, and enhances prediction accuracy. Experimental evaluation shows reliable performance suitable for real-time disaster management systems.*

Keywords*: Floods*

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