Application of Artificial Intelligence for Disaster Response and Management

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Abstract: *Natural hazards may result in catastrophic damage and significant socioeconomic loss. In recent decades, there has been an increasing trend in the actual damage and loss that has been observed. Disaster managers are therefore under increasing pressure to proactively safeguard their communities through the development of effective management techniques. In order to support informed disaster management, several research studies process disaster-related data using artificial intelligence (AI) techniques. The four stages of disaster management—preparation, response, recovery, and mitigation—are covered in this study's summary of current AI applications. Along with some useful AI-based decision support tools, it provides examples of how various AI techniques can be applied and highlights their advantages for assisting with disaster management at various stages. We discover that most AI applications concentrate on the phase of disaster response. In order to motivate the scientific community to develop AI methods for resolving these issues in subsequent studies, this study also identifies challenges.*

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