

AI for Real-Time Disaster Management

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Abstract: *Purpose: Artificial intelligence (AI) technology is an innovative approach that can be developed to enable rapid and effective action in disaster management activities for disaster-affected countries. This study aimed to reveal the role and application methods of artificial intelligence systems in disaster management processes (pre- and post-disaster). It also discussed the adequacy and effectiveness of these roles and methods, especially in Türkiye Study design/methodology/approach: A systematic literature review on the use of AI systems in disaster management was conducted and an inventory on the use of AI in disaster management was developed. This inventory was prepared by considering earthquakes, floods, fires, tsunamis and hurricanes as data sets. These datasets are categorized, compared and evaluated in terms of their application locations, time and duration of use (pre- or post-disaster), developed AI systems and their purposes, methods, scale and final products. Findings: The study revealed that the use of AI systems will be effective in minimizing logistical challenges in the intervention and management of natural disasters. Additionally, the systematic review has observed a frequent focus on earthquakes in AI applications related to disasters, and it was determined that research on the prevention and process management of other potential disasters is limited. Originality/value: This study is highly effective in revealing the role of AI systems in disaster management and identifying their utilization in Türkiye. It is expected to provide preliminary knowledge for future studies by focusing on artificial intelligence studies in disaster management in a holistic manner.*

Keywords: *Artificial intelligence*

