

AI-Based Humanitarian Aid Distribution Optimization in Crisis Zones

Abstract:

In times of crisis, the efficient distribution of humanitarian aid is crucial to saving lives and reducing suffering. Traditional relief efforts struggle with delays, misallocation of resources, and lack of real-time coordination. To address these challenges, we propose an AI-BASED HUMANITARIAN AID DISTRIBUTION SYSTEM that optimizes aid allocation through real-time data analysis, predictive analytics, and intelligent decision-making systems.

AI-powered systems utilize machine learning algorithms and predictive models to dynamically assess crisis conditions, forecast demand, and allocate resources more efficiently. These intelligent systems continuously process and analyze geospatial data, population density, disaster severity, and supply availability, allowing for real-time adjustments to distribution strategies. By leveraging automated data analysis and intelligent routing algorithms, AI ensures that critical supplies reach the most vulnerable populations first, minimizing delays and reducing resource wastage.

Moreover, AI-driven logistics enhance supply chain optimization and coordination among humanitarian organizations, mitigating inefficiencies caused by poor planning and unpredictable disruptions. As humanitarian organizations increasingly embrace AI, they unlock the potential to save more lives, minimize suffering, and create a more sustainable and effective crisis relief infrastructure for the future.

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