

The Role of Research and Technology in Predicting and Responding to Humanitarian Crises

Ladies and Gentlemen,

Distinguished Guests,

I would like to begin by expressing my gratitude and appreciation to those responsible for organizing the **Dubai International Humanitarian Aid and Development Conference (DIHAD 2025)**, held under the theme “**Humanitarian Aid and Development in a Polarised World**,” for their kind invitation to participate in this conference. This highlights the crucial role of scientific research in predicting and responding to humanitarian crises.

Humanitarian crises present an increasingly significant global challenge, arising from various factors, including natural disasters, armed conflicts, pandemics, and population displacement. These crises lead to widespread suffering, loss of life, destruction of infrastructure, and hinder sustainable development.

With limited resources and the growing scale and complexity of these crises, the search for innovative and effective solutions to provide humanitarian assistance has become imperative. In this context, artificial intelligence (AI) has emerged as a transformative technology that can revolutionize various sectors, including humanitarian crisis response. It is now difficult to identify any industry that does not incorporate AI to some extent, including the humanitarian crisis response sector.

Despite the existence of traditional strategies for dealing with humanitarian crises, where the international community has accumulated significant expertise over decades, AI has proven its ability to improve responses significantly.

By applying AI, crisis managers can predict future problems, analyze large datasets, and distribute aid with greater precision and efficiency.

With the ongoing development of AI technologies, this field is expected to play an increasingly important role in improving humanitarian responses to crises and disasters. Among the most important potential applications of AI in humanitarian crises are:

- **Improving Crisis Prediction Capabilities:** By developing more complex algorithms capable of real-time data analysis, we can enhance the accuracy of predicting natural disasters and humanitarian conflicts, enabling a more efficient early response.
- **Robots and Drones:** Expanding the use of robots and drones in search and rescue missions and delivering aid to areas that are difficult to access helps reduce risks to humanitarian workers.
- **Adaptive Artificial Intelligence:** Developing AI systems capable of adapting to complex and changing environments during crises, assisting in rapid and accurate decision-making based on emerging data.

- **Expanding the Use of AI in Humanitarian Logistics:** Improving inventory management, supply chains, and food and medical aid distribution based on AI analysis to ensure more efficient delivery to the most vulnerable groups.

In conclusion, AI is a pivotal tool in improving humanitarian crisis response, contributing to innovative and rapid solutions through data analysis, crisis prediction, and efficient aid distribution.

However, this success requires overcoming technical and ethical challenges to ensure fairness and efficiency in humanitarian aid delivery.

To further enhance the use of AI in crisis response, it is crucial for governments to promote collaboration between the public and private sectors, increase investment in research and development, and develop legal frameworks that regulate the use of AI in humanitarian work.