

Applied AI

HUMANITARIAN SECTOR

07.32



01 WHY AI?

- Efficient resource allocation
- Disaster response optimization
- Enhancing needs assessment accuracy
- Improving aid delivery routes
- Personalizing aid to vulnerable populations

02 INDUSTRY

- Disaster Relief
- Refugee Support
- Food Security
- Health Services
- Education

03 STRATEGIC TRENDS

- Predictive analytics for disaster preparedness
- AI in logistics and supply chain
- Chatbots for information dissemination
- Drones for damage assessment
- Machine learning for vulnerability mapping
- Satellite imagery for crisis monitoring
- AI-driven health diagnostics
- Digital identity solutions
- Blockchain for aid transparency
- Mobile education platforms

04 WHY CHANGE?

- Climate change impacts
- Increasing conflict zones
- Urbanization challenges
- Resource scarcity
- Growing refugee numbers

05 LEADING COMPANIES

- United Nations
- Red Cross
- Médecins Sans Frontières
- World Food Programme
- Save the Children.

06 ENABLING TECHNOLOGIES

- AI for predicting famine risks
- Blockchain for secure donation tracking
- Drones delivering medical supplies
- Mobile apps for refugee assistance
- Satellite data in emergency mapping
- Wearables for health monitoring in camps
- Big data analytics for needs assessment
- Virtual reality for training volunteers
- Social media analysis for crisis response
- IoT devices for clean water access

07 AI DISRUPTION

- Predictive models forecasting crises
- AI-enhanced communication tools for refugees
- Optimization algorithms for aid distribution
- Machine learning identifying outbreak patterns
- AI for personalized educational content in camps
- Drones mapping inaccessible disaster areas
- Chatbots providing mental health support
- AI tools for efficient shelter allocation
- Natural language processing for multilingual support
- AI-driven platforms connecting donors with beneficiaries

08 GREAT EXAMPLES OF AI

- AI early warning systems for natural disasters
- Drones surveying after earthquakes
- Chatbots aiding in disaster relief coordination
- Machine learning for refugee camp resource mgmt
- AI-based medical diagnostic tools in field hospitals
- Predictive analytics preventing hunger crises
- AI for clean water distribution optimization
- Blockchain ensuring aid reaches intended recipients
- Satellite AI analyzing conflict displacement patterns
- Mobile learning apps for children in crises

09 ECOSYSTEM REQUIREMENTS

- Collaborative NGOs, governments, and tech companies
- Accessible data for AI analysis
- Ethical frameworks guiding AI use
- Infrastructure supporting AI technologies
- Continuous training for humanitarian workers in AI

10 NEW RISKS

- Data privacy in vulnerable populations
- AI decision-making biases
- Dependency on technology over human judgment
- Cybersecurity threats to humanitarian databases
- Misidentification in AI assessments

MISUSE

- Exploitation of data from disaster victims
- Biased AI leading to unequal aid distribution
- Drones violating airspace regulations
- Manipulation of blockchain for fraud in donations
- Misleading AI-generated reports on crises

11

DILEMMAS

- Privacy vs. efficiency in aid distribution?
- AI decisions vs. humanitarian principles?
- Balancing innovation with the risk of technology failure?

12

ORG. REQUIREMENTS

- Robust data protection policies
- AI ethics adherence
- Partnership development for technology sharing
- Investment in AI literacy and training
- Agile response strategies incorporating AI feedback

13

14

STEP BY STEP AI

- Evaluate AI readiness within organization
- Pilot AI in specific humanitarian operations
- Train staff and volunteers on AI tools
- Scale successful AI applications across missions
- Monitor, evaluate, and refine AI integration

BEST PRACTICES

- Prioritize human rights in AI deployment
- Ensure transparency in AI operations
- Foster multi-sector AI partnerships
- Develop AI solutions tailored to field needs
- Continuously monitor AI impact and adjust

15

16

AI MODELS

- Supervised learning for resource prediction
- Unsupervised learning in crisis data analysis
- Reinforcement learning for supply chain optimization
- CNNs for image recognition in disaster areas
- Regression analysis for trend forecasting in crises

DIGITAL TWINS

- Digital twins of refugee camps for planning
- Virtual simulations for disaster response training
- Digital replicas of water supply systems
- AI models for health service provision in crises
- Virtual platforms for donor-NGO engagement

17

18

GLOBAL LEADERS

- Sweden: Innovations in global health initiatives.
- Germany: Leading in refugee support technologies.
- United States: Disaster response and predictive analytics.
- Japan: Advanced emergency infrastructure and tech.
- Kenya: Frontline in mobile banking solutions for refugees.

FUTURE JOBS

- AI crisis response analyst
- Drone pilot for aid delivery
- Digital health specialist in field hospitals
- Data privacy officer for humanitarian organizations
- Education technology coordinator in refugee camps

19

20

THE FUTURE OF AI

- Global early warning systems
- AI in ending hunger and malnutrition
- Autonomous aid delivery vehicles
- Personalized learning for displaced children
- AI-driven water and sanitation solutions

RECOMMENDED READING

- "Digital Humanitarians" Patrick Meier
- "The Age of Surveillance Capitalism" Shoshana Zuboff
- "Algorithms of Oppression" Safiya Umoja Noble
- "Humanitarianism in the Network Age" UN OCHA
- "AI for Good" Yoshua Bengio et al.

21

22

TED TALKS

- "AI brings us faster emergency responses" (Murphy)
- "The future of humanitarian response" (Cox)
- "AI for the Earth's greatest challenges" (Joppa)
- "Technology's promise for humanitarian aid" (Soldner)
- "Why we need to end the era of orphanages" (Winkler)

ONLINE RESOURCES

- ReliefWeb: Global crises information.
- HumanitarianResponse: Coordination support.
- Devex: Global development media.
- Red Cross: Aid and disaster relief.
- OCHA: UN humanitarian news.

23

24

NEXT STEPS

- Engage with AI technology.
- Identify opportunities for AI application.
- Invest in AI education and training.
- Please contact us at hello@nextpaper.me for further exploration or inspiration through a n AI-related **talk**, **workshop** or **consulting**. We'd love to help!

