AI in Maha Kumbh 2025

Why in News?

Authorities are using CCTV cameras equipped with **Artificial Intelligence** to **manage the rush of devotees** at the ongoing **Maha Kumbh Mela** and **predict sudden crowd surges.**

Key Points

- **Crowd Statistics:**
    - Approximately **50 to 60 lakh people visit the fair daily.**
    - The number of devotees surges on ritual bathing days:
        - **Paush Purnima**: 1.6 crore people took a dip.
        - **Makar Sankranti (January 14)**: 3.5 crore people participated.
        - **Mauni Amavasya (January 29)**: An estimated 6 to 7 crore people are expected.
- **Surveillance and Monitoring Setup:**
    - Authorities have installed around **2,700 CCTV cameras across Prayagraj** for the festival with **1,800 located in the fair area.**
    - Monitoring is conducted through four **Integrated Command and Control Centres (ICCC)** within the fair area.
- **Role of AI in Crowd Management:**
    - Out of 1,800 CCTV cameras, approximately 160 are equipped with AI technology.
    - **AI calculates crowd density per square metre** to estimate the number of people in specific areas at specific times.
    - **Authorities use AI data to estimate the number of pilgrims expected on major bathing days** and divert crowds to **prevent overcrowding.**
- **AI in Emergency Response:**
    - **AI facilitates evacuation in emergencies,** such as the recent fire incident that destroyed 40 huts and 60 tents.
    - This is the first time AI has been used for **crowd management** on such a large scale globally.
    - **Challenges and Limitations:**
        - AI models sometimes **face gaps due to low network connectivity and technical issues.**
        - Equipping all CCTV cameras with **AI remains cost-prohibitive**.

Artificial Intelligence (AI)

- **About:**
    - AI is the ability of a computer, or a robot **controlled by a computer to do tasks that are usually done by humans** because they require human intelligence and discernment.
        - Although there is **no AI that can perform the wide variety of tasks an ordinary human can do**, some AI can match humans in specific tasks.
- **Characteristics & Components:**
    - The ideal characteristic of artificial intelligence is its **ability to rationalize and take actions** that have the best chance of achieving a specific goal. A subset of AI is **Machine Learning (ML).**
        - Deep Learning (DL) techniques **enable this automatic learning** through the

absorption of huge amounts of unstructured data such as text, images, or video.

PDF Refernece URL: