Bharat Gen: India’s First Indigenous AI Model

Why in News?

Union Minister for Science & Technology launched **‘Bharat Gen’**—India’s first indigenously developed, government-funded, **AI**-based **Multimodal Large Language Model (LLM)** for Indian languages, at **the BharatGen Summit.**

- India has emerged as a **global leader in AI,** with platforms like the **Centralised Public Grievance Redressal and Monitoring System (CPGRAMS)** serving as international benchmarks for citizen engagement and effective grievance redressal.

Note:

- LLMs are large **general-purpose language models** capable of solving common language problems such as text classification, question answering, and text generation.
- These m**odels are trained on massive datasets to understand patterns**, structures, and relationships within human language.

Key Points

- **About Bharat Gen:**
  - Bharat Gen is a part of the **National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)** and aims to create **AI that is ethical, inclusive, multilingual**, and deeply **embedded in Indian values and ethos.**
    - It is implemented through the **Technology Innovation Hubs (TIH) Foundation** for **IoT (Internet of Things) and IoE (Internet of Everything) at IIT Bombay.**
  - The project integrates **text, speech, and image modalities, offering seamless AI solutions in 22 Indian languages.**
  - It aims to transform sectors like **healthcare**, **education**, **agriculture**, **and governance** by delivering region-specific AI solutions.
- **AI and Education:**
  - BharatGen echoes the inclusive spirit of the **National Education Policy (NEP) 2020**, which promotes interdisciplinary learning, helping students combine technical and social sciences for better innovation and employability.
- **Launch of Generative AI Hackathon 2025:**
  - The summit also marked the launch of the **Generative AI Hackathon 2025**, inviting students to tackle real-world challenges using AI.
- **MoUs at the Summit:**
  - The BharatGen Summit **hosted major Memorandum of Understanding (MoU) exchanges to deepen collaboration** across government agencies, academia, and research institutions.


MPSC Prelims Course
Mode: Online | Medium: Marathi and English (Bilingual mode)
Admissions Open
Course Validity
1 year from the date of
commencement of the batch
Free access to 10 Mock Tests
Online mode via
Drishti Learning App
Facility to watch
Each class an Unlimited
number of times.

Artificial Intelligence(AI)

AI is the simulation of human intelligence in machines programmed to think and learn like humans, capable of problem-solving, reasoning, and adapting to new information.

AI Timeline - Major Milestones

- **1950s** – Turing Test Proposed; First AI Programs Developed
- **1956** – Dartmouth Conference Coins "Artificial Intelligence"
- **1960s** – Eliza Chatbot Created; Early Neural Networks Emerge
- **1996** – Deep Blue - a Chess-Playing Program
- **2012** – Deep Learning Breakthrough in Image Recognition
- **2014** – Generative Adversarial Networks (GANs) Introduced
- **2020** – GPT-3 Demonstrates Advanced Language Generation
- **2022** – Chatgpt Launches, Bringing Conversational AI to Masses
- **2023** – Generative AI Boom; Major Tech Companies Release AI Models

Applications of AI

- **Healthcare:** Personalised medicine
- **Finance:** Algorithmic trading
- **Transportation:** Autonomous vehicles
- **Marketing & Customer Service:** Targeted advertising, chatbots
- **Education:** Adaptive learning systems, personalised tutoring
- **Agriculture:** Crop monitoring
- **Cybersecurity:** Threat detection
- **Energy:** Smart grid management, consumption forecasting

Concerns

- Deepfakes & misinformation
- Algorithmic bias
- Automation & job displacement
- Privacy issues
- Data ownership & liability issue
- Ethical decision-making complexes

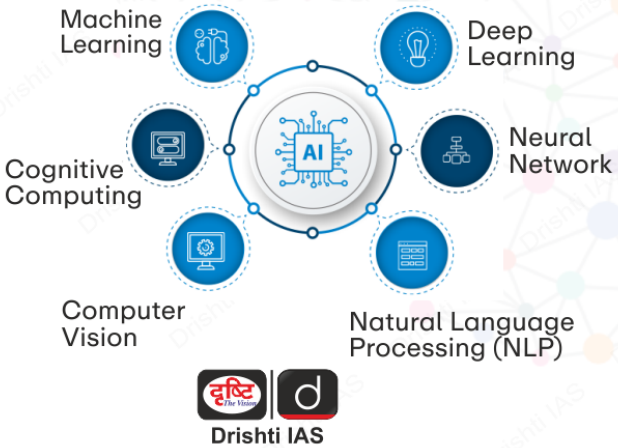
Regulating AI

- **Global Partnership on AI (GPAI)** launched in 2020
- **Bletchley Declaration (2023):** Enhance Global Collaboration on AI
- **G20 New Delhi Leaders' Declaration (2023):** Harnessing AI responsibly for good and for all
- **Hiroshima AI Process (2023)** by G7

India and AI

- **National Strategy For AI 2018**
- **AI For All:** Self-learning online program
- **GPAI Summit 2023** hosted by India
- **IndiaAI Mission 2024**
- **US India Artificial Intelligence (USIAI) Initiative:** AI cooperation in critical areas
- **AIRAWAT** (AI Research, Analytics and Knowledge Assimilation Platform): Supercomputer

KEY COMPONENTS OF AI



Drishti IAS

National Mission-Interdisciplinary Cyber-Physical Systems

- **About:**
  - It was launched in 2018 by the Ministry of Science and Technology with an outlay of **Rs.**

3,660.00 crore for a period of five years to encourage innovation in new age technologies.
    - It covers the entire India which includes Central Ministries, State Governments, Industry and Academia.
- **Objectives:**
    - The NM-ICPS is a **comprehensive Mission which would address technology development, application development**, human resource development & skill enhancement, entrepreneurship and start-up development in Cyber Physical System (CPS) and associated technologies.
    - The Mission aims **at the establishment of 15 Technology Innovation Hubs (TIH)**, six Application Innovation Hubs (AIH) and four Technology Translation Research Parks (TTRP).
    - These Hubs & TTRPs will connect to **Academics, Industry, Central Ministries and State Government in developing solutions** at reputed academic, R&D and other organizations across the country in a hub and spoke model.
    - The Hubs & TTRPs have **four focused areas along which the Mission implementation** would proceed, namely:
        - Technology Development,
        - HRD & Skill Development,
        - Innovation, Entrepreneurship & Start-ups Ecosystem Development, and
        - International Collaborations.

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