

NEXT IAS

**DAILY EDITORIAL
ANALYSIS**

TOPIC

**Harnessing the Power of
Artificial Intelligence (AI)**

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HARNESSING THE POWER OF ARTIFICIAL INTELLIGENCE (AI)

Context

- India stands at the cusp of a transformative era, with Artificial Intelligence (AI) poised to play a pivotal role in its journey towards becoming a global leader. As the world rapidly adapts to AI advancements, India has the potential to harness this technology to drive inclusive economic growth and innovation.

India and Artificial Intelligence

- Artificial Intelligence (AI) is revolutionising the world, and India is no exception. With its vast pool of talent and a burgeoning tech industry, India is poised to become a global leader in AI.
- India** has been proactive in fostering AI development. The **National Strategy for Artificial Intelligence**, crafted by **NITI Aayog**, outlines a comprehensive approach to **harness AI for social and economic benefits**.

Key Efforts Made By India in AI Regulation:

- Digital Personal Data Protection Act in 2023
- Global Partnership on Artificial Intelligence (GPAI)
- The National Strategy for Artificial Intelligence (*AIForAll Strategy*) by NITI Aayog
- Principles for Responsible AI

- Additionally, the **IndiaAI mission**, with a **budget outlay of Rs. 10,371.92 crore**, aims to establish a robust AI ecosystem through strategic programs and partnerships.
- India's AI market** is growing rapidly, with an expected compound **annual growth rate of 25-35% by 2027**, which is driven by significant investments in AI technologies across various sectors, including healthcare, agriculture, education, smart cities, smart mobility and governance.
 - It is currently valued at \$7-10 billion, and is projected to reach \$22 billion.

Sector-wise Transformation

- AI in Healthcare:** AI is transforming healthcare in India by improving diagnostic accuracy, personalising treatment plans, and enhancing patient care.
 - AI-enabled tools are being used to predict disease outbreaks, manage patient data, and assist in complex surgeries.
 - The integration of AI in healthcare is expected to make medical services more accessible and affordable.
- AI in Agriculture:** In agriculture, AI is helping farmers increase productivity and reduce costs.
 - AI-powered solutions are being used for crop monitoring, soil health analysis, and pest control.
 - These technologies enable farmers to make data-driven decisions, leading to better yields and sustainable farming practices.
- AI in Education:** AI is also making significant strides in education by personalising learning experiences and improving administrative efficiency.
 - AI-driven platforms are being used to create customised learning paths, assess student performance, and provide real-time feedback.
 - It ensures that education is tailored to individual needs, enhancing learning outcomes.

How India Can Harness and Leverage the Power of AI?

- Building Robust Infrastructure:** To fully capitalise on AI, India must invest in building a robust infrastructure. It includes enhancing computing power, improving data quality, and ensuring widespread internet connectivity.

- ◆ Despite **generating 20% of the world's data**, India hosts only **2% of data centres** — current computing infrastructure **represents less than 2% of global capacity** — posing a critical bottleneck to technological advancement.
- **Fostering Industry-Academia Collaboration:** Collaboration between industry and academia is crucial for developing AI capabilities. By aligning educational curricula with industry needs and promoting research and development, India can create a skilled workforce ready to tackle AI challenges.
 - ◆ Initiatives like the **Global Partnership on AI** and hosting G20 meetings have already set a favourable geo-political climate.
- **Encouraging Startups and Innovation:** India's vibrant startup ecosystem can be a catalyst for AI innovation. Providing risk capital, fostering industry collaboration, and supporting socially impactful AI projects can drive significant transformation across sectors.
 - ◆ The government's focus on democratising computing access and attracting top AI talent will further bolster this ecosystem.
- **Sector-Specific AI Applications:** Tailoring AI applications to specific sectors can maximise its impact. For instance, in logistics, AI can optimise supply chains and reduce inefficiencies.
- **Empowering the Workforce:** Reskilling and upskilling the workforce is essential to prepare for an AI-driven future. By focusing on **Tier-2 and Tier-3 cities** and promoting AI ethics education, India can create a diverse and inclusive AI talent pool.
 - ◆ Initiatives to equip millions with AI skills by 2025 highlight the proactive steps being taken to integrate AI into the workforce.
- **Promoting Ethical AI:** As AI becomes more integrated into daily life, ensuring ethical use is paramount. Developing guidelines and frameworks for responsible AI use will help mitigate risks and build public trust.
 - ◆ India's commitment to ethical AI practices can set a global standard and position it as a leader in responsible AI deployment.
- **Interdisciplinary Collaboration:** AI implementation requires collaboration across various disciplines and sectors. Fostering such interdisciplinary cooperation can be complex but is essential for holistic AI solutions.

Challenges and the Way Forward

- India's journey with AI is just beginning, but the potential is immense. With continued investments, strategic initiatives, and a focus on ethical AI, India is well on its way to becoming a global AI powerhouse.
- The transformative impact of AI across various sectors promises a brighter, more efficient, and inclusive future for India.
- Despite the promising developments, there are challenges to AI adoption in India. These include data privacy concerns, lack of skilled workforce, and ethical issues.
- To address these challenges, the government is focusing on skilling initiatives, promoting research in AI ethics, and establishing regulatory frameworks.

Source: IE

Mains Practice Question

[Q] How can India effectively leverage artificial intelligence to address its socio-economic challenges, while ensuring ethical and responsible Artificial Intelligence (AI) development?

