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DAILY EDITORIAL ANALYSIS

TOPIC

Rebooting India's Prospects Through Artificial General Intelligence (AGI)

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REBOOTING INDIA'S PROSPECTS THROUGH ARTIFICIAL GENERAL INTELLIGENCE (AGI)

Context

- Recently, it was observed that the Artificial General Intelligence (AGI) could reboot and determine India's prospects in the world for future generations.

About the Artificial General Intelligence (AGI)

- It is a concept that represents a **futuristic vision** where **machines possess cognitive abilities at par with humans,** capable of reasoning, problem-solving, perception, learning, and language comprehension.
- It is defined as **AI that is at least as good as humans at nearly all of the cognitive things that humans do**.
- AGI is the **next frontier** in the field of Artificial Intelligence (AI). **Unlike AI,** which is designed to perform a specific task, AGI can understand, learn, and apply knowledge across a wide range of tasks at a level equal to or beyond human capabilities.
  - It means **AGI can perform any intellectual task** that a human being can, with **similar cognitive flexibility.**
- As India strides towards becoming a digital economy, the potential of AGI to transform various sectors is immense.

Journey Towards AGI

- While AI has made significant strides in recent years, no AI tool to date has passed the **Turing test** (a benchmark proposed by 20th-century computer scientist Alan Turing).
  - It measures an AI's ability to exhibit intelligent behaviour equivalent to, or indistinguishable from, that of a human.
- The **current state-of-the-art AI technologies**, including ChatGPT, DALL-E, and others, are essentially **prediction machines**. They can predict, with a high degree of accuracy, the answer to a specific prompt because they've been trained on vast amounts of data.
  - However, **they lack the human level of performance** in terms of creativity, logical reasoning, sensory perception, and other capabilities.

AI as a Pivotal Element of India's National Strategy

- The Indian Cabinet approved the **'IndiaAI Mission'** in March 2024, with a funding of over 10,000 crore across five years for **AI development.**
- It aims to support **AI super-computing infrastructure** accessible to startups, academia, and industry.

- **Paradigm Shift with AGI:** AGI presents a paradigm shift in how we envision the future of technology and its role in society. How wisely we adopt it will not only determine our place in the world of tomorrow, but will also define the legacy we leave for future generations.
- **Transformative Power of AI:** The transformative power of AI to benefit humanity is acknowledged. However, it is incumbent upon us to approach the future with a broad sense of responsibility and collective vision for a world where technology serves the greater good.
- **Future with AGI:** With AGI, success will no longer be about leading in technology, but about mastering a domain that could well dictate the course of human evolution, economics and global governance.
  - Mastery over AGI could very well **dictate the future balance of global power.**

Potential Promise of AGI

- AGI holds the promise of revolutionising sectors ranging from **healthcare to agriculture, education to governance.** However, the **timeline for the realisation** of AGI is **uncertain**. Some researchers believe that we are decades away from realising AGI, and a few even predict that we won't see AGI this century.**In**

Healthcare: AGI can aid in diagnosing diseases, predicting health risks, and personalising treatment plans and can help bridge the **gap between urban** and **rural healthcare services specifically in India.**

- In healthcare, an AGI system could monitor individual health metrics in real time, predict potential problems, and coordinate customised preventative care and treatments.

- **In Agriculture**: AGI can optimise crop yield, manage pests, and monitor soil health, and can aid **small and marginal farmers** in making informed decisions **specifically in India.**
- **In Education**: AGI can provide personalised learning experiences, identify learning gaps, and enhance skill development, and it can help in **democratising quality education** across the country like India.
- **In Governance:** AGI can improve public service delivery, enhance transparency, and aid in policy-making, and it can aid in **efficient public service delivery** even in the **remotest parts** of the country.
  - In an ideal AGI world, **cities** would operate with **optimised energy use and minimal waste (city management).**

Risks and Challenges Associated with AGI

- **Understanding the Risks:** The **National Institute of Standards and Technology (NIST)** has developed an **AI Risk Management Framework** to help manage the risks associated with AGI, that **identifies 12 risks and proposes over 400 actions** that developers can take to manage them.
  - One of the **long-term risks** highlighted by **Yuval Noah Harari** is the potential **amalgamation of AGI and biotechnology**, which could fundamentally alter human existence by manipulating human emotions, thoughts, and desires.
- **Regulatory Challenges:** Regulating AGI is a complex task due to the dynamic and ever-evolving nature of the technology.
  - **Regulatory sandboxes** have emerged as a significant instrument to evaluate innovations within a defined and monitored timeframe while being subject to regulatory oversight. These sandboxes provide a **controlled environment for testing AGI applications**, thereby enabling policymakers to gather empirical evidence regarding the advantages and potential risks associated with the technology.
  - The **Economist Intelligence Unit**'s review of global regulatory guidance reveals significant **concerns including data bias, 'black box' risk, and a lack of human oversight.**
- **Ethical Considerations:** These are **paramount** when dealing with AGI. Ensuring ethical, fair, and well-documented AI-based decisions is crucial.
  - There are concerns about the potential for AGI to unfairly disadvantage individuals or groups of people through discriminatory practices. Therefore, it is **essential to align AGI with universally accepted human values.**

Policy Suggestions

- **Preparing for an AGI-Driven Economy:** We must prepare for an AGI-driven economy that may radically transform job markets and economic structures. It is also imperative to safely integrate AGI with India's defence strategy. Human nature often leads us to under-prepare for catastrophic risks, primarily because such events are rare.
- **An AI Agenda for India:** India should establish a dedicated department of AI, a central authority for coordinating all AI-related activities. The department should set standards and guidelines for AI development and drive AI policies and initiatives that align with India's strategic interests.
- **Democratising Access to Data:** Indian policy should aim to liberate and democratise access to vast data-sets across public and private sectors. This step is crucial for fostering a thriving AI ecosystem that can compete on a global scale and address local challenges effectively.
- **Enhancing National Security and Innovation:** India should create an AI ecosystem for strategic AI use cases. Focus on developing a robust AI ecosystem for deployment in defence, drone technology, cybersecurity and other systems.

- **Building AI Proficiency Nationwide:** India should launch a comprehensive AI skilling initiative. The government should set a goal to train 50 million people in AI usage skills and 1 million individuals in AI development.
- **Collaborations and Partnerships:** India can forge partnerships with universities and technical institutes to integrate AI-focused curricula, launch specialised degree programmes and promote continuing education modules. Collaborations with online education platforms can provide scalable access to courses.

Road Ahead

- While the potential of AGI is immense, realising it **requires concerted efforts.**
  - There is a need for significant **investment in research and development** in the field of AGI.
  - There is a need for **capacity building** in terms of **skilled manpower** who can work in this field.
  - There is a need for a **robust regulatory framework** that ensures **ethical use** of AGI.
- Moreover, it is crucial to foster collaborations between academia, industry, and government to drive AGI research and applications. **Public-private partnerships** can play a pivotal role in this regard. Also, **international collaborations** can aid in sharing best practices and learning from global experiences.
- **Need for Safeguards Against Potential AGI Issues:** While AGI promises a leap in efficiency and capability, it necessitates stringent safeguards against potential issues such as surveillance overreach and autonomous weaponry, ensuring that AGI serves to enhance rather than undermine human autonomy and equity.

Conclusion

- While AGI holds substantial promise for improving human life and economic competitiveness, it also poses new risks and challenges. It is crucial to strike a balance between fostering AGI innovation and ensuring responsible development.
- It requires a multifaceted approach, weighing current challenges against potential future ramifications. As we continue to navigate the uncharted horizons of AGI, it is imperative to confront these risks and challenges head-on to ensure a safe and beneficial future with AGI.

Mains Practice Question

[Q] How do you envision the role of Artificial General Intelligence in rebooting India's prospects, considering its potential impact on various sectors such as economy, education, healthcare, and governance?

Source: LM

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