

Internet and Democracy

Strategy and Advisory on Artificial Intelligence (India)

National Strategy for Artificial Intelligence, 2018 (India)

Potential

a) Healthcare: Application of AI in healthcare can help address issues of high barriers to access to healthcare facilities, particularly in rural areas that suffer from poor connectivity and limited supply of healthcare professionals. This can be achieved through implementation of use cases such as AI driven diagnostics, personalised treatment, early identification of potential pandemics, and imaging diagnostics, among others.

b) Agriculture: AI holds the promise of driving a food revolution and meeting the increased demand for food (global need to produce 50% more food and cater to an additional 2 billion people by 2050 as compared to today). It also has the potential to address challenges such as inadequate demand prediction, lack of assured irrigation, and overuse / misuse of pesticides and fertilisers. Some use cases include improvement in crop yield through real time advisory, advanced detection of pest attacks, and prediction of crop prices to inform sowing practices.

c) Smart Mobility, including Transports and Logistics: Potential use cases in this domain include autonomous fleets for ride sharing, semi-autonomous features such as driver assist, and predictive engine monitoring and maintenance. Other areas that AI can impact include autonomous trucking and delivery, and improved traffic management.

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- d) **Retail:** The retail sector has been one of the early adopters of AI solutions, with applications such as improving user experience by providing personalised suggestions, preference-based browsing and image-based product search. Other use cases include customer demand anticipation, improved inventory management, and efficient delivery management.
- e) **Manufacturing:** Manufacturing industry is expected to be one of the biggest beneficiaries of AI based solutions, thus enabling 'Factory of the Future' through flexible and adaptable technical systems to automate processes and machinery to respond to unfamiliar or unexpected situations by making smart decisions. Impact areas include engineering (AI for R&D efforts), supply chain management (demand forecasting), production (AI can achieve cost reduction and increase efficiency), maintenance (predictive maintenance and increased asset utilisation), quality assurance (e.g. vision systems with machine learning algorithms to identify defects and deviations in product features), and in-plant logistics and warehousing.

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f) Energy: Potential use cases in the energy sector include energy system modelling and forecasting to decrease unpredictability and increase efficiency in power balancing and usage. In renewable energy systems, AI can enable storage of energy through intelligent grids enabled by smart meters, and also improve the reliability and affordability of photovoltaic energy. Similar to the manufacturing sector, AI may also be deployed for predictive maintenance of grid infrastructure.

g) Smart Cities: Integration of AI in newly developed smart cities and infrastructure could also help meet the demands of a rapidly urbanising population and providing them with enhanced quality of life. Potential use cases include traffic control to reduce congestion and enhanced security through improved crowd management.

h) Education and Skilling: AI can potentially solve for quality and access issues observed in the Indian education sector. Potential use cases include augmenting and enhancing the learning experience through personalised learning, automating and expediting administrative tasks, and predicting the need for student intervention to reduce dropouts or recommend vocational training.

Actions for the Government

Achieving the goal of #AIforAll requires long term and engaged institutional collaboration between all the stakeholders including the citizens. However, while playing the primary role in ensuring that this collaborative strategy succeeds, the government needs to be mindful of not crowding out the private sector. Role of the government thus needs to be one of a facilitator, an active promoter and wherever required, of an owner.

This section summarises the key recommendations, and the role of the government.

Figure 34: Government's role

Applied Research	Setting up of International Centres for Transformational AI (ICTAIs)	Invite Expression of Interests (EoIs) from industry players to lead ICTAIs in various sectors (health, education, agriculture, smart mobility and smart cities), in collaboration with the government and academia. Build governance structure, provide fiscal support, formulate an IP model for ICTAIs and set up the ICTAIs under a PPP model through “challenge method”.
	Setting up ICTAI Inc., overarching entity for ICTAIs	Establish “ICTAI Inc.” as either society / section 8 company, with initial contribution from government and private sector representation, to select and fund ICTAIs.
Common Compute Platform	Setting up AI Research, Analytics and knoWledge Assimilation platform (AIRAWAT)	Set up a common cloud platform for Big Data Analytics and Assimilation with a large, power-optimised AI Computing infrastructure connecting all COREs, ICTAIs and other academic institutions with National Knowledge Network.
Intellectual Property	Building an attractive IP regime for AI innovation	Set up a task force, comprising jointly of Ministry of Corporate Affairs and DIPP, to examine and

Area	Recommendation	Government role
Research and Application		
Core Research	Setting up Centre of Research Excellence for AI (COREs)	Identify academic institutions, provide fiscal support to establish COREs focusing on core technology research in AI.
	PhD Scholarships	Institute National AI Fellowships to retain outgoing PhD students and attract researchers from foreign universities with attractive incentives and challenging projects.
	Inter-academia collaboration	Incentivise research collaboration between premier academic institutions through special grants while facilitating the formation of a global expert pool for core AI research.
	Faculty Fellowships	Provide Faculty Fellowships or Chairs in academic institutes to promote research in AI.

Supra-national collaboration	Setting up CERN for AI	Take the lead in bringing together the relevant parties to create People’s AI, the CERN for AI – national governments, industry, academia and international community of researchers.
		issue appropriate modifications to the IP regulatory regime pertaining to AI.

Reskilling and Training		
Workforce	Promote formation of future service sector jobs	Incentivise creation of service sector jobs of the future such as data annotation through tax holidays or inclusion in CSR activities.
	Recognition and standardisation of informal training	Set up AI / Data Science training standards, as per National Skills Qualification Framework, and provide certifications to training institutes.
	Promote employee reskilling	Incentivise investment in training of employees through tax breaks and grants for employers.
Colleges	Expansion of quality education in data science and AI	Incentivise colleges / universities to adopt credit-bearing MOOCs in their curriculum.
	Promote cross-disciplinary AI education	Introduce Bridge Courses in AI for post-graduates in non-computer science or data science domains.
Schools	Introducing AI / ML in schools	Introduce AI modules in Atal Tinkering Labs.
Overall	Continuously assess the changing nature of jobs	Constitute a standing committee or taskforce to examine and report on changes in employment induced by adoption AI.

Accelerating Adoption of AI		
Data Sharing	Opening up government datasets	Establish platforms for making datasets in the area of social sector (either collected during implementation of a scheme or in normal business processes) available for open public use in a machine readable form.
Data Annotation	Creating and making India specific annotated datasets public (on the lines of ImageNet)	<ul style="list-style-type: none"> 1. Catalyse partnerships with the various academic institutions and public / private agencies in making annotated India specific data available for advancing AI research. 2. Explore partnerships and co-fund building of large corpora of data across domains, as a means of laying the foundation for startups and enterprises to build applications and services tailor-made to the Indian context.
Crowdsourcing Annotation	Annotation of data – images, text, speech etc. via crowdsourcing	Announce grand challenge tasks for tagging of images, text or videos, and devising reward based mechanisms through data market place to aggregate the content from the various participating members.
Nation-wide adoption	Enabling a multi-stakeholder owned and	Create governance guidelines, explore partnerships and co-fund the establishment of: <ul style="list-style-type: none"> 1. Data marketplace

Visibility in Collaboration	Making information search for collaborations easier	Set up an AI Database portal for easy dissemination of information on projects being implemented via collaboration among government-academia-industry-researchers-startups to enable resource matching.
Awareness and Adoption in Government	Making decision makers aware about transformative potential of AI	<ul style="list-style-type: none"> 1. Workshops, live demonstrations, 2. AI Readiness Index to highlight best practices across states, and 3. Create Central-State shared fund for AI led development projects to be taken up by States.
Government and PSUs as seeders for network effect	Making governments and PSUs leaders in adoption of social AI tools	Help create a pipeline of AI research projects for the COREs, ICTAIs through grand challenges to be given by the government and PSUs. Incentivise public agencies to adopt and employ AI in delivering service through financial support; extra budgets for R&D; tax incentives and awards.
Partnerships and Collaboration	Industry – Academia – Trade Bodies – Venture Capital Collaboration	Encourage close collaboration between industry, academia, trade bodies and venture capital to implement “AI+X” paradigm.
Startup Support	Support systems for AI based startups	Establish incubation hubs and venture funds specifically for AI startups in collaboration with State Governments.

	managed National AI Marketplace	2. Data annotation marketplace 3. Deployable model marketplace to develop the data supply ecosystem, ease collaboration, reduce time and cost of collecting & annotating data, and bring multiple solutions deployment at one place for scale and network effect.
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Responsible AI Development		
Ethical and Responsible Research in AI	Making COREs and ICTAIs adopt ethical practices	Set up a consortium of Ethics Councils at each CORE and ICTAI to define the standard practices and monitor their adoption.
Privacy and Security	Instituting a data privacy legal framework	Address and implement data protection framework, which protects human rights and privacy without stifling innovation in India.
	Creating sectoral regulatory guidelines	Collaborate with industry to come out with sector specific guidelines on privacy, security and ethics – on manufacturing, financial services, identity, telecommunication, robotics etc.
	Collaborating on privacy preserving technology research in AI	Support COREs to do research in new mathematical models and technology for preserving privacy; encourage international collaboration.
Sustainable Research	Setting up Centre for Studies on Technological Sustainability (CSTS)	Set up CSTS to address issues relating to ethics, privacy, legal aspects, social sustainability and global competitiveness of the technologies developed.

Subject: Due diligence by Intermediaries / Platforms under the Information Technology Act, 2000 and Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

This advisory is issued in supersession of advisory eNo.2(4)/2023-CyberLaws-3, dated 1st March, 2024.

It has come to the notice of the Ministry of Electronics and Information Technology (“Ministry”) that intermediaries and platforms are often negligent in undertaking due-diligence obligations outlined under Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 (“IT Rules”).

2. Accordingly, in addition to the advisory No. 2(4)/2023-CyberLaws – 2 dated 26th December, 2023, all intermediaries and platforms are hereby advised to also ensure compliance with the following:

- (a) Every intermediary and platform should ensure that use of Artificial Intelligence model(s) /LLM/Generative AI, software(s) or algorithm(s) on or through its computer resource does not permit its users to host, display, upload, modify, publish, transmit, store, update or share any unlawful content as outlined in the Rule 3(1)(b) of the IT Rules or violate any other provision of the Information Technology Act, 2000 (“IT Act 2000”) and other laws in force.
- (b) Every intermediary and platform should ensure that its computer resource in itself or through the use of Artificial Intelligence model(s) /LLM/Generative AI, software(s) or algorithm(s) does not permit any bias or discrimination or threaten the integrity of the electoral process.

and user agreements about the consequences of dealing with unlawful information, including disabling of access to or removal of such information; suspension or termination of access; or usage rights of the user to their user account, as the case may be, and punishment under the applicable law.

3. Where any intermediary through its software or any other computer resource permits or facilitates synthetic creation, generation or modification of a text, audio, visual or audio-visual information, in such a manner that such information may be used potentially as misinformation or deepfake, it is advised that such information created, generated, or modified through its software or any other computer resource is labeled or embedded with permanent unique metadata or identifier, in a manner that such label, metadata or identifier can be used to identify that such information has been created, generated or modified using the computer resource of the intermediary. Further, in case any changes are made by a user, the metadata should be so configured to enable identification of such user or computer resource that has effected such change.

4. It is reiterated that non-compliance with the provisions of the IT Act 2000 and/or IT Rules could result in consequences including but not limited to prosecution under the IT Act 2000 and other criminal laws, for intermediaries, platforms and their users.

5. All intermediaries are, hereby required to ensure compliance with the above with immediate effect.

AI Advisory

- **March 1, 2024-** The use of under-testing / unreliable Artificial Intelligence model(s) /LLM/Generative AI, software(s) or algorithm(s) and its availability to the users on Indian Internet must be done so with explicit permission of the Government of India and be deployed only after appropriately labeling the possible and inherent fallibility or unreliability of the output generated. Further, ‘consent popup’ mechanism may be used to explicitly inform the users about the possible and inherent fallibility or unreliability of the output generated
- **March 15, 2024-** Under-tested/ unreliable AI model(s)/ LLM/ Generative AI Software(s) or algorithm(s) or further development on such models should be made available to users in India only after appropriately labeling the possible inherent fallibility or unreliability of the output generated. Further, “consent popup” or equivalent mechanisms may be used to explicitly inform the users about the possible inherent fallibility or unreliability of the output generated.

IT Ministry replaces AI advisory, drops requirement of government's permission

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The March 1 advisory had come under fire for requiring Artificial Intelligence firms to seek permission from the government in order to avoid legal liability from chatbot responses and other generative content

THE HINDU BUREAU

