

Machine Learning as Envisaged in India's AI Policies

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Ethical and Societal Challenges of Machine Learning



7-11 November 2022
An ICTP Virtual Meeting
Trieste, Italy



AI in India

This section provides resources and information on the AI landscape in India, such as national AI policies, blog posts, trends and data visualisations, live news and publications.

AI policies in India

Download policies:

[See all 23 policies](#)

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[NATIONAL STRATEGY ON ARTIFICIAL INTELLIGENCE](#) ★ NATIONAL AI STRATEGY

Recognising AI's potential to transform economies and the need for India to strategise its approach, Hon'ble Finance Minister, in his bud...

[APPROACH DOCUMENT FOR INDIA: PART 1 - PRINCIPLES FOR RESPONSIBLE AI](#)

This document proposes principles for the responsible management of AI systems that may be leveraged by relevant stakeholders in In...

[APPROACH DOCUMENT FOR INDIA: PART 2 - OPERATIONALIZING PRINCIPLES FOR RESPONSIBLE AI](#)

This document identifies a series of actions for the government, the private sector and research institutions that must be adopted to d...

[ARTIFICIAL INTELLIGENCE TASK FORCE FOR INDIA'S ECONOMIC TRANSFORMATION](#)

The Ministry of Commerce and Industry has set up the AI Task force Task force on Artificial Intelligence to kick-start the use of AI for In...

[NEW EXPERIENCE STUDIO AT NITI AAYOG CLOUD INNOVATION CENTER](#)

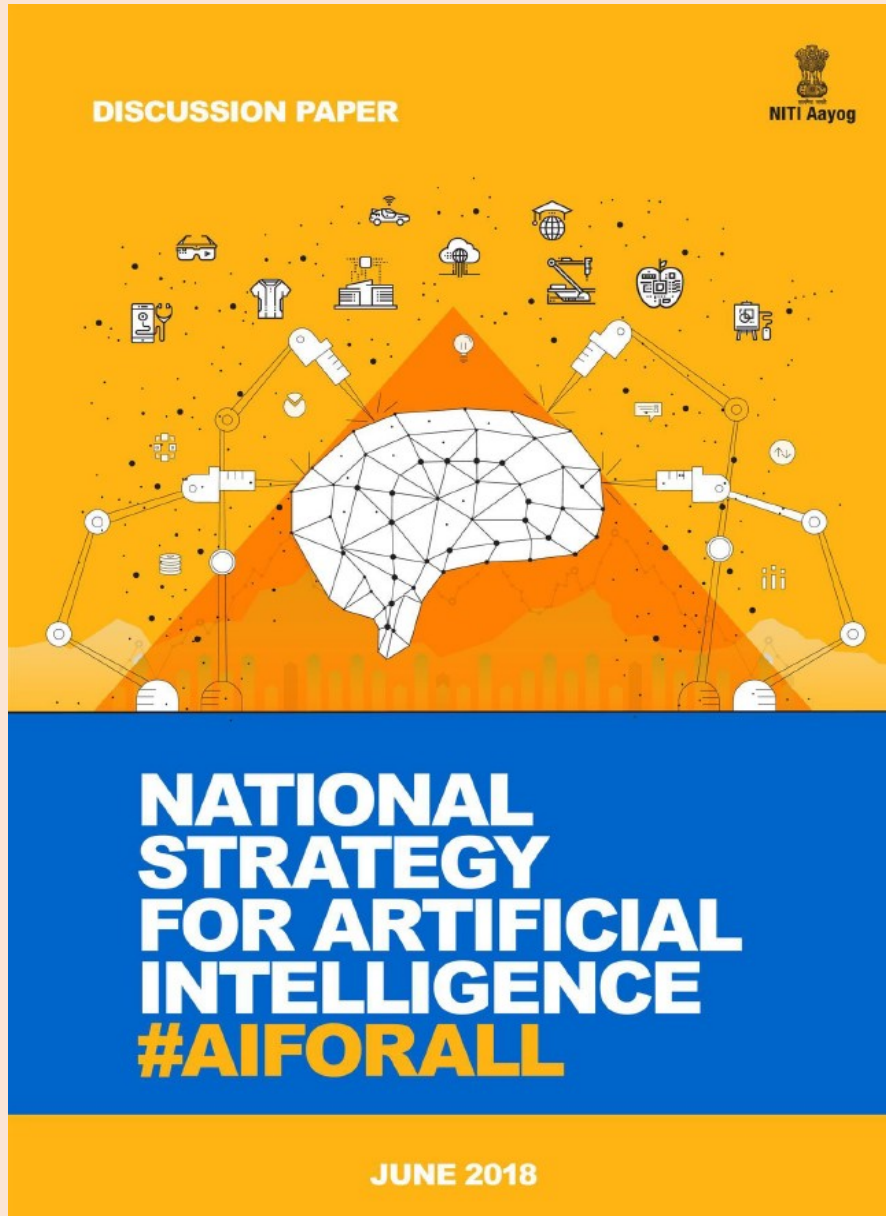
Developed by NITI Aayog in collaboration with Amazon Web Services and Intel, the Studio, established at the NITI Aayog Frontier Techn...

[U.S.-INDIA ARTIFICIAL INTELLIGENCE INITIATIVE](#)

The IUSSTF U.S. - India Artificial Intelligence (USIAI) Initiative provides a unique opportunity for the world's two largest democracies to ...

23 Policies are mapped from India on <https://oecd.ai>

Major Policy Documents



- Released by NITI Aayog in June 2018
- Motto: **AI for All; Responsible AI**
- Focused on five sectors that are envisioned to benefit the most from AI in solving societal needs:
 - a) Healthcare: increased access and affordability of quality healthcare,
 - b) Agriculture: enhanced farmers' income, increased farm productivity and reduction of wastage,
 - c) Education: improved access and quality of education,
 - d) Smart Cities and Infrastructure: efficient and connectivity for the burgeoning urban population, and
 - e) Smart Mobility and Transportation: smarter and safer modes of transportation and better traffic and congestion problems.



RESPONSIBLE AI #AIFORALL

Approach Document for India
Part 1 - Principles for Responsible AI

FEBRUARY 2021

- **Responsible AI: Approach Document For India: Part 1 – Principles for Responsible AI**
- Released in February 2021
- 7 Systems Considerations
 - 1: Understanding the AI system’s functioning for safe and reliable deployment
 - 2: Post-deployment – can the relevant stakeholders of the AI system understand why a specific decision was made?
 - 3: Consistency across stakeholders
 - 4: Incorrect Decisions Leading to Exclusion from Access to Services or Benefits
 - 5: Accountability of AI Decisions
 - 6: Privacy Risks
 - 7: Security Risks
- Societal Considerations
 - Malicious Use of AI
 - Impact on Jobs



- **Responsible AI: Approach Document For India: Part 2 – Operationalizing Principles for Responsible AI**
- Released in August 2021
- Operationalizing Principles for Responsible AI
- For the Government
 - Designing ideal regulatory and policy interventions, creating awareness, accessibility and capacity building, and facilitating precise procurement strategies.
- For the Private Sector and Research Institutions
 - Incentivising ethics by design, creating frameworks for compliance with relevant AI standards and guidelines, and the promotion of Responsible AI practices in research.



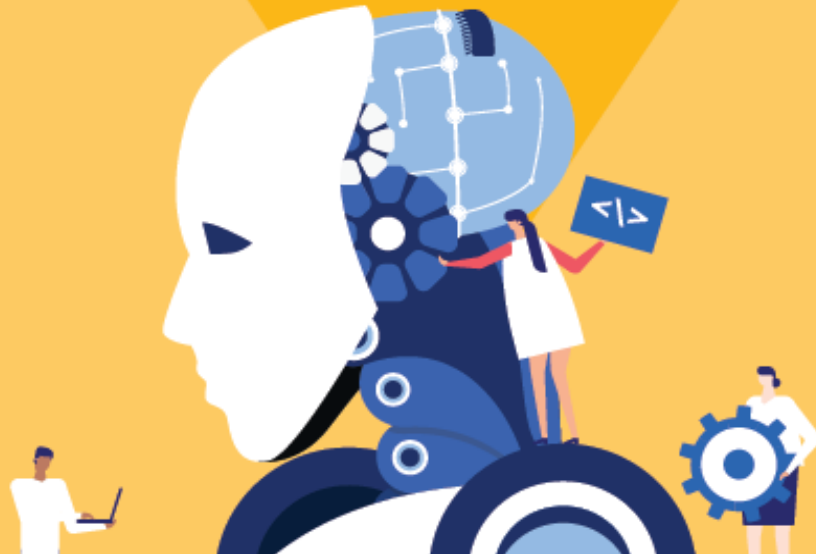
In the series of its publication on Responsible Artificial Intelligence (RAI), NITI Aayog brings the third paper titled "Responsible AI for All: Adopting the Framework – A use case approach on Facial Recognition Technology".

This draft discussion paper is being released for seeking public comments. Comments may be sent on or before 30th November 2022 addressed to Anna Roy, Senior Adviser, NITI Aayog at the email id adviserdma-niti@gov.in

RESPONSIBLE AI #AIForAll

Adopting the Framework: A Use Case Approach
on Facial Recognition Technology

Discussion Paper | November 2022



- **Responsible AI: Adopting the Framework: A Use Case Approach on Facial Recognition Technology**
- Released in November 2022
- Seeking public comments till 30 November
- Provided A Case Study of Digi Yatra Programme
- Given Examples of FRT Systems Deployed In India



**HERE, THERE
AND EVERYWHERE**

State of the Education Report for India 2022
Artificial Intelligence in Education

- **2022 State of the Education Report for India: Artificial Intelligence in Education**
- Released in September 2022 by UNESCO
- Its Ten Recommendations are:
 - Consider the Ethics of Artificial Intelligence in Education as an Utmost Priority
 - Rapidly provide an overall regulatory framework for Artificial Intelligence in Education
 - Create Effective public-private partnerships
 - Ensure that all students and teachers have access to the latest technology
 - Expand AI Literacy efforts
 - Attempt to correct algorithmic biases and the resulting discrimination
 - Improve Public Trust in Artificial Intelligence
 - Request the Private Sector to better involve students and educationists in developing AI products
 - Place ownership of data with the students
 - Embrace the versatility of Artificial Intelligence in Education systems

RESPONSIBLE AI TOOLKIT:

Harnessing the power of AI ethically

NASSCOM with leading industry partners has come up with a Responsible AI toolkit to power AI inventions by prioritizing user trust and safety.

Swipe to know →
what this **AI toolkit** is all about

NASSCOM Responsible AI Resource Kit

Culmination of a joint collaboration between NASSCOM and leading industry partners to seed the adoption of responsible AI at scale.

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- **NASSCOM Responsible AI Resource Kit**
- Released in October 2022
- To seed the adoption of Responsible AI at scale, and to harness the power of AI ethically

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Anjali Raja K | Media and Entertainment

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AI INSIGHTS

Exploring SYSTRAN - a machine translation technology

Dr Nivash Jeevanandam | AI Research | 4 Min



FEATURED



AI for Everyone

Research Report | INDIAai | 2 Min



एआई सभी के लिए (AI for Everyone - Hindi)

Research Report | Min



75@75 Startups



India's AI Journey: 75@75

NEW STARTUPS

Indika AI

Data Annotation Services for Computer Vision, NLP and ML

Know more →



NASSCOM Responsible AI Resource Kit

Culmination of a joint collaboration between NASSCOM and leading industry partners to seed the adoption of responsible AI at scale.

Visit Now →

RAISE 2020

Global Artificial Intelligence summit organized by the Government of India in partnership with Industry & Academia.



National AI Portal IndiaAI.gov.in, launched on May 30, 2020, is a joint initiative by Ministry of Electronics and IT (MeitY), National e-Governance Division (NeGD) and NASSCOM, and serves as a central hub for AI related news, learning, articles, events and activities etc., in India and beyond.

According to the Economic Survey 2021-22,

India had at least **one startup** in **555 districts**. Most venture capital funding is now going to **AI projects** in the **e-commerce, banking** and **healthcare sectors**.

#WhatsupWithAI



Did You Know?

The year 2021 saw total funding of **\$1,108 M** in **Indian AI Startups** in the field of **AI** and **Analytics**.

A MEITY, NEGD & NASSCOM INITIATIVE

LAUNCHES

75@75

AI startups booklet in India

Download the full report now!





STARTUP OF THE WEEK



www.logy.ai/

Founded in 2018, Logy.AI is an AI-based digital patient platform for preventive care from home at zero costs for users.

www.indiaai.gov.in

AI in Cybersecurity

AI and smart algorithms are playing a significant role in **analyzing network traffic** and learning to recognize patterns that suggest **nefarious intentions**. Some of the most significant applications of AI that we will see develop in 2022 are likely to be in this area.

AI: Powering the future of cybersecurity **NATIONAL CYBERSECURITY AWARENESS MONTH**



#EaseOfLiving
WithAI

Effective **Eye Care** screening tool using AI

The **screening tool** focuses on diverse datasets of **patients** and can **predict whether surgery** is going to be **successful** for a given patient or not.



INDIAai
A MEITY, NEDG & NASSCOM INITIATIVE

AI: A key to **REVOLUTIONIZING** mental health care



Improve
predictability



Greater
accuracy



Support
empathy



24x7 availability
of chatbots

#WorldMentalHealthDay

#EaseOfLiving
WithAI

AI-based **TRIAGING** **TOOL:** To identify probable COVID-19 cases

This tool will combine an **analysis of solicited cough sounds** as an objective measurement along to identify the probable **COVID-19** cases.



AI-powered **STROKE TREATMENT:** An ultimate solution

The software uses AI to create **high-quality** and **advanced images** to help hospitals improve **time-critical triage** and **transfer decisions**.



AI-enabled early **DETECTION SOFTWARE:** A weapon against Breast Cancer

This software can **detect tumors** five times smaller than what a **clinical exam** can detect. The plus point? It can easily be **operated** by a **normal clinician**.



Highlights from the previous edition of *lab2market*

- Received over **50+ applications** from renowned institutes like



IIT Kharagpur



IIT Ropar



IISc Bangalore

and more...

- Top applicants were incubated in **NASSCOM 10000 Startup Incubation Program**

Submit your application today!

Last date to submit the form - 3rd November, 2022

INDIAai is inviting applications for

Lab2Market 2022

Are you an academic innovator,
looking for the perfect opportunity
to gain the right visibility and
industry exposure for your
ground-breaking AI solution?

**Participate & submit your
application today!**

Last date to submit the form -
3rd November, 2022



Conclusion

- Responsible AI supports the UN Sustainable Development Goals (3: Good Health and Wellbeing, 4: Quality Education, 6: Clean Water, 2: Zero Hunger through Food Security, 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation, 11: Make cities and human settlements inclusive, safe, resilient and sustainable, 13: Take urgent action to combat climate change and its impacts,).
- Public and private-sector corporations in India are expected to undertake competitive strategies in implementing *Responsible AI* for mitigating sustainable futures.
- AI-ML Researchers, Science Communicators, and Information Professionals have been engaged in sharing knowledge resources through #OpenAccess information portals;
- They also have initiated awareness raising on Responsible AI, besides other aspects of data-driven decision making.

Thank You !!!