WELCOME TO
SAI 20 Senior Official Meeting

Responsible
Artificial Intelligence
Overview on Artificial Intelligence

Components of Artificial Intelligence

- Intelligent chatbot
- Predictive modeling
- Robotic Process Automation
- Cloud Computing
- Intelligent Content Recognition
- Natural Language Generation
- Blockchain

Artificial Intelligence (AI)
Machine Learning (ML)
Deep Learning (DL)

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Responsible AI...

Can AI be used for-
- betterment of the Common man?
- solving Societal problems?
- benefit of the Women, Farmers, Students?

SOCIAL COMPONENTS OF RESPONSIBLE AI

- Positive Human Values
- Encouraging people’s welfare
- Unbiased
- Fairness
- Feedback

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Why Responsible AI?

- Cognitive Bias:
  - Designed and trained by humans
  - Human bias in decision-making process

- Accountability of AI decisions:
  - Complex network of decisions
  - Accountability for harm

- Privacy of Data:
  - Built on sensitive and personal data
  - Privacy vulnerabilities

- Security of System:
  - Susceptible to attack
  - Manipulation of system

- Safety and Reliability:
  - ‘Deep Learning’ systems is opaque
  - ‘Black box’ phenomenon

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Resonance of SAI20 & Responsible AI principles

- Fairness
- Transparency
- Accountability
- Reliability
- Privacy & Security
- Inclusion

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# Global Perspective on Responsible AI

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<td>AI Ethics guidelines, Principles on AI</td>
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Key AI Initiatives by Government of India

- National Program on AI
- IndiaAI Portal
- Safe and Ethical AI Policy-TN
- Responsible AI #AIFORALL
- Centre for Excellence in AI
- Global Partnership on AI
Responsible AI - Building Blocks

Data Governance

- Enhance Quality data access with Privacy, Safety, & Trust
- Consolidated Data platform – at all level of Governance
- Data Discoverability and Research ecosystem

Data Standardization

- Pre-condition to enable implementation of AI
- Support cross-verification and training for AI
- ISO-PC -295 which is being adopted by various countries

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**Auditing Responsible AI**

- ✔ Analysing AI associated risks and impacts
- ✔ Evaluating the performance of AI system
- ✔ Ensuring Legal and Regulatory compliance of AI System
- ✔ Promoting Transparency, Privacy, Security, and Accountability
- ✔ Internal capacity building of auditors in AI

**ADOPTING AI IN AUDIT WILL PREPARE AUDITING OF AI**
Framework for Auditing Responsible AI

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Auditing Responsible AI
(GOVERNANCE)

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Auditing Responsible AI
(ACCURACY vs INTERPRETABILITY)

Interpretability
The ability to determine cause and effect from a machine learning model

Explainability
The knowledge of both what a node represents and its importance to the model's performance

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Auditing Responsible AI
(PERFORMANCE)

Effectiveness

Economy

Efficiency

Monitoring

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Auditing Responsible AI (REGULATORY)

- **Policies, Procedures and Regulations** guide the design, development and use of AI systems.
- **Global standards** will serve as the compass for guiding the deployment of AI.
- **Ethics Committee** can overlook the internal oversight of the development and deployment of AI solutions.

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Auditing Responsible AI (SAFETY)

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Adopting AI in Audit

- Opportunities and Risks
- Mapping Audit processes and Tasks
- Use of AI in Big Data Analytics
- Exploring Tools for AI
- Capacity Building Programme

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Detecting non-inclusion of Beneficiaries in Scholarship Scheme

- The National Scholarship scheme with limited seats are provided to students of minority communities.
- Statistical Model was developed using Bayesian algorithm to detect % of eligibility.
- The deviations above a specific threshold showed ineligible beneficiaries.
- These ineligible beneficiaries resulted in non-inclusion of eligible beneficiaries.
Way Forward - Roadmap

- ✔ SAI20 Cooperation & Collaboration
- ✔ Auditing Framework
- ✔ Capacity building

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Thank you for your time