ARTIFICIAL INTELLIGENCE LITERACY IN HEALTH AND EDUCATION SECTORS

SIDE EVENT; 9TH MULTISTAKEHOLDER SCIENCE, TECHNOLOGY AND INNOVATION (STI) FORUM

Artificial intelligence in Health Sector: An Overview

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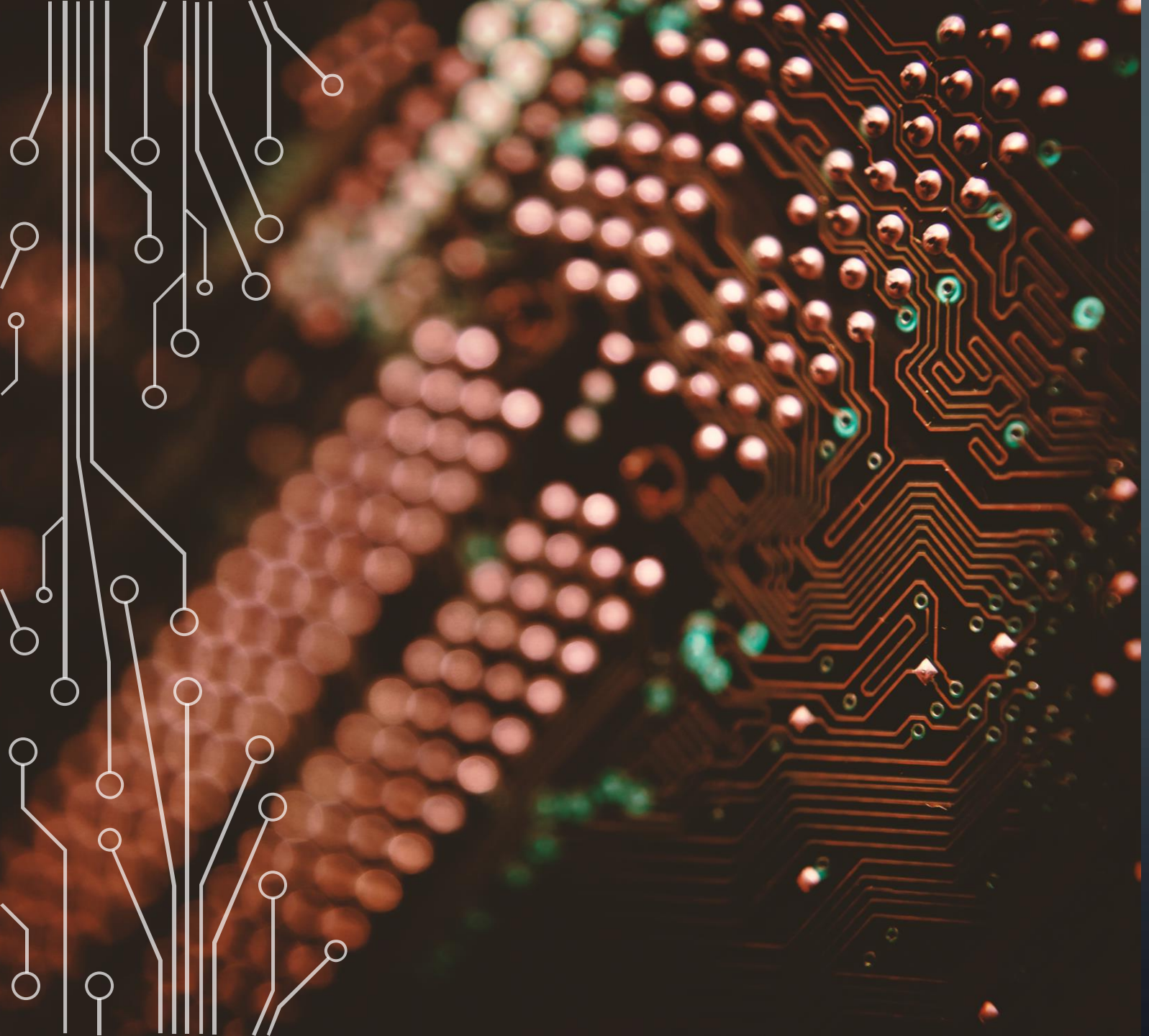


WHAT IS ARTIFICIAL INTELLIGENCE (AI)?

- Definitions
- Machine Learning
- Deep Learning
- Algorithms

ARTIFICIAL INTELLIGENCE FOR HEALTH SECTOR AND AI CHATBOTS RELEASED FOR PUBLIC USE

ChatGPT RELEASED IN NOVEMBER 2022. RAPID ADOPTION, CAPABILITIES, LIMITATIONS AND RISK.

GOOGLE'S BARD;

MICROSOFT'S BING

HARNESSING AI FOR HEALTH AND BRIDGING GAPS WHEC'S STRATEGIC APPROACH

ENABLE

Standards;

Policies;

Governance; and

Guidance on evidence-based AI for health.

FACILITATE

Pooled Investment; and

A digital community of experts.

IMPLEMENT

Sustainable Models of AI programs implementation at the country level.

EMERGING USES OF AI FOR HEALTH

PROMISES AND PITFALLS OF ARTIFICIAL INTELLIGENCE (AI) IN HEALTH SECTOR

An overview of *ChatGPT* usage in health sector since its release in November 2022. By February 2024, it has become the fastest growing consumer application.

AI will reshape technology as we know it, but the extent of that transformation is not clear, yet.

AI is a tool, and it is very much under human control.

AI USAGE IN HEALTH SECTORS FOR CLINICIANS

MEDIAL QUERIES

AI's accuracy has been proven for ophthalmology, hepatic disease, oncology and obstetrics and gynecology.

Limitations: a static knowledge base and lack of specificity. It will not include any research or clinical updates published after September 2021. Therefore, professional societies guidelines remain essential cross-references to ensure accuracy and appropriate use.

DOCUMENTATION AND ADMINISTRATIVE TASKS

AI can improve medical documentation and reduce administrative burden. It has been used to generate accurate patient clinic letters, radiology reports, medical notes, and discharge summaries. AI can also be used for prescriptions refill, scheduling appointments and patient registration.

Limitations: AI cannot handle sensitive patient information and potential risk of data breach and privacy concerns.

CLINICAL DECISION SUPPORT

AI can support physicians' clinical decision and reduce errors in reasoning. Can be useful for tests, final diagnoses, and management using clinical pieces and pictures with a variety of age, gender identity, and emergency severity indices.

Limitations: AI CANNOT provide personalized insight into decision making. AI will miss subtle cues from the patient-physician interaction that might influence final decision-making.

AI USAGE IN HEALTH SECTOR FOR RESEARCHERS AND EDUCATORS

LITERATURE REVIEW

AI can generate queries that lead to high research precision for systematic reviews. It can produce innovative outputs that can foster novel ideas and hypotheses. Excels at summarizing text.

Limitations: It does not interact with PDF files. Text must be copied and pasted rather than directly analyzed from the file. Risk of bias based on training data sets, plagiarism, lack of transparency and citation inaccuracies.

RESEARCH WRITING

AI can be an effective tool for designing and writing research manuscripts. Can create initial draft by filling in section with appropriate content and offer suggestions for sentence structure, grammar, and readability – improve the ability to express and communicate research ideas, results and ultimately speeding up the publication process.

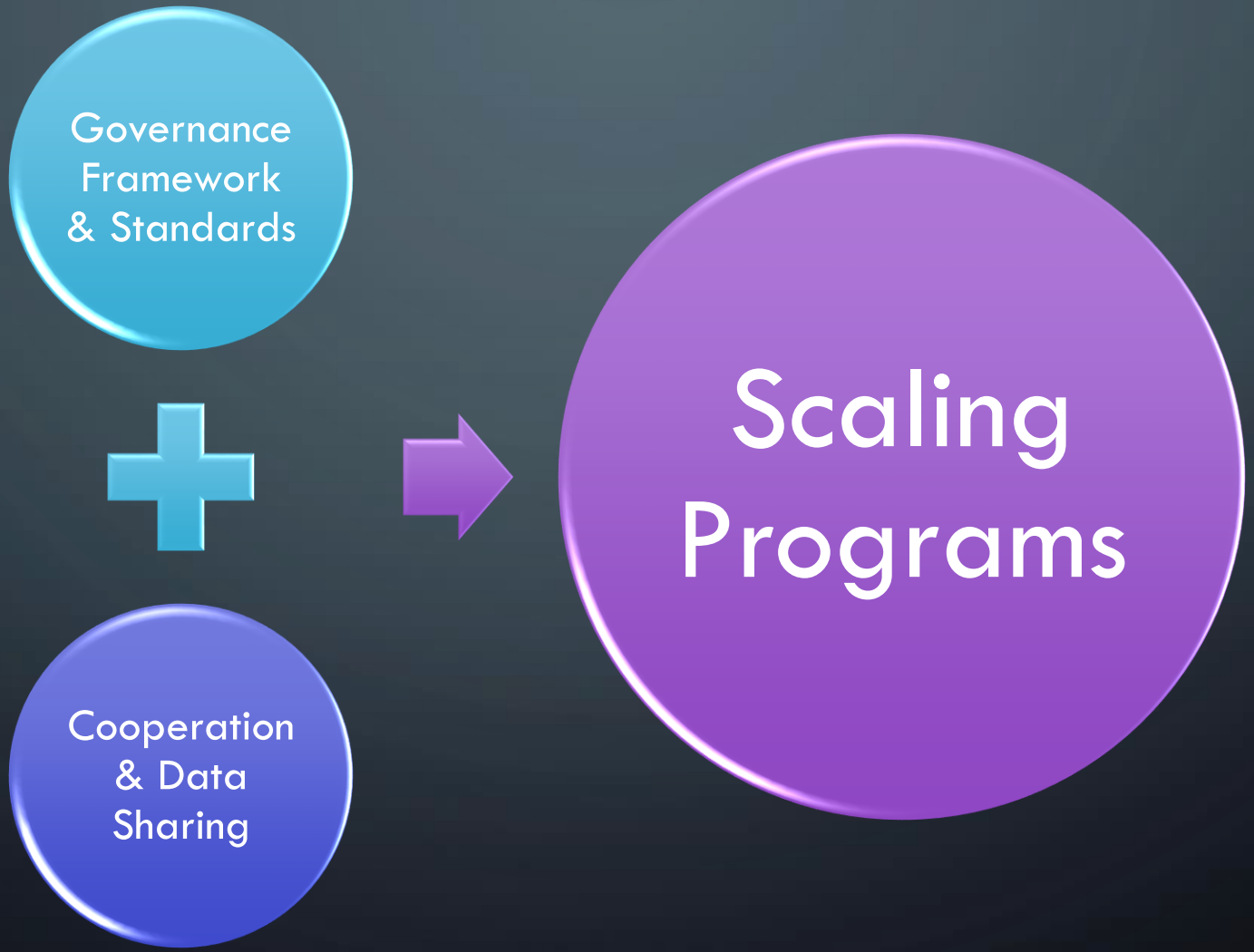
Limitations: human expertise in medical professional areas, editing services and adherence to ethical guidelines are irreplaceable. **Human oversight is must**.

TEACHING AIDS, ASSESSMENT AND EVALUATION

AI can help in creating lesson plans and activities. AI can design interactive activities such as simulated clinical cases for learners with varying levels of knowledge. AI can generate flashcards, multiple-choice questions, and open-ended queries – a helpful tool for students to train and test their knowledge.

Limitations: **AI CANNOT replace human element is medical education**.

BRIDGING GAPS



SUMMARY

Better technology means less hassle for patients and health workers. Artificial intelligence (AI) offers an opportunity to complement workers skill and expertise if we direct its development accordingly. For AI-based digital health systems, to benefit people equitably around the world, multiple important gaps need to be addressed – these include robust governance, ethical considerations, and strong public trust.

Least Developed Countries (LDCs) are the world's greatest untapped resource, whose needs must be addressed to achieve the Sustainable Development Goals (SDGs).

AI is already playing a role in diagnosis and critical care, drug development, disease surveillance, outbreak response, and heath-systems management. The future of education- and health-sectors is digital. We must do what we can to promote universal access to these innovations and prevent them from becoming another driver for inequality.

Artificial intelligence is just a technology and not a substitute for clinical judgment. **It cannot replace human element in health and education sectors.** AI lacks empathy and human-touch.

A multiagency global initiative on AI for health is warranted to improve coordination, leverage collective and individual agency capacity, and ensure that the evolution of AI steers away from a dystopian future towards one that is safe, secure, trustworthy and equitable.

THANK YOU

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