Artificial Intelligence for Social Good (AI4SG)
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ABSTRACT:

A truly meaningful Al initiative must follow an impact–first approach, ensuring that success is measured not in terms of accuracy benchmarks or model performance, but in meaningful improvements in human well–being (Moon, 2020). For example, Al used in healthcare should be evaluated not by its processing speed but by its ability to reduce disease prevalence or improve early diagnosis rates. One major challenge is the use of Al–generated content without proper attribution or understanding. When students rely excessively on Al–generated work, they risk bypassing essential learning processes such as critical thinking, argumentation, and problem–solving. Additionally, Al models are known to hallucinate information, occasionally producing inaccurate or biased outputs, which can compromise the quality of academic work. As artificial intelligence continues to shape modern society, the importance of ethical AI development and deployment cannot be overstated. Al systems have the power to enhance human well–being, but without proper governance, they can also cause harm, reinforce inequalities, and operate without accountability. To mitigate these risks, Al must adhere to fundamental ethical principles that prioritize human dignity, fairness, and transparency.

KEYWORDS:

Artificial Intelligence, Social good, Economic, Ethical Development, Technology.

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Introduction:

Artificial Intelligence (AI) has often been framed in discussions about automation, efficiency, and computational advancements. While these aspects have undoubtedly transformed industries, the broader societal impact of AI remains a subject of growing debate. The intersection of AI and social good–the potential of AI to address pressing societal challenges–offers a promising yet under explored frontier.

In recent years, we have witnessed the emergence of AI for Social Good (AI4SG) as a dedicated research and application stream, focussing not merely on technical complexity but on its tangible impact on the so-

ciety. Unlike mainstream AI, which often operates within the constraints of corporate incentives or computational efficiency, AI4SG is inherently problem–driven, targeting socio–economic issues concerning to equal op–portunities and access at large, including poverty alleviation, education and healthcare accessibility, disaster response and environmental conser–vation. However, as AI extends its reach into the social sphere, it also raises critical ethical, governance, and economic concerns. Who benefits from AI? How do we ensure AI solutions are equitably distributed rather than intensifying existing inequalities? What mechanisms exist to regulate AI in socially sensitive domains? These questions are essential to address and develop a framework where AI genuinely serves the public good.

In the present dialogue conceptual grounding of AI4SG, its appli–cations, ethical considerations, and policy frameworks will be explored. This would offer a democratic, impactful, and ethical AI. Expectation from the end of the session is to answer 4 key questions:

1.   What is AI for Social Good?

2.   Where do we see AI for Social Good?

3.   What ethical questions concerns AI4SG?

4.   What are the answers to these ethical questions that concern AI4SG?

Without further ado, let us deep–dive into the first question, about what AI4SG actually means.

AI4SG: Concept and Approach

Artificial Intelligence, in its traditional applications, has been largely focused on optimizing performance, automating processes, and enhancing computational power. Whether in finance, manufacturing, or marketing, AI's primary utility has been to improve existing workflows, often driven by private sector interests. Broadly speaking, Artificial Intel–ligence is defined as a wide scope of technologies, including those in–volved in human interactions, recognition, pattern matching, cognition, goal–driven systems, and automation, among others (Moon, 2020). How–ever, AI for Social Good departs from this trajectory by prioritizing mea–surable social impact over mere technological novelty. AI for Social Good (AI4SG) or Social Impact (AI4SI) is a dedicated stream of AI research, development, and deployment that focuses on measurable, real–world benefits to society (Tambe et al., 2022). At its core, AI4SG is not about

developing Al for its own sake but about identifying critical societal challenges and deploying Al as a means to resolve them.

AI4SG: Characteristics

Now, as we examine the transformative potential of AI4SG, it is essential to define the core principles that distinguish it from mainstream Al development. There are at least 4 foundational principles that make this stream of Al design and development distinct.

1. Measurable Social Impact Over Technical Advancement

At its heart, AI4SG must prioritize real–world impact over technical novelty. While mainstream Al research often focuses on algorithmic improvements or computational efficiency, Al for social good should be judged by its ability to improve lives and drive positive change (Perrault et al., 2020).

A truly meaningful Al initiative must follow an impact–first approach, ensuring that success is measured not in terms of accuracy benchmarks or model performance, but in meaningful improvements in human well–being (Moon, 2020). For example, Al used in healthcare should be evaluated not by its processing speed but by its ability to reduce disease prevalence or improve early diagnosis rates.

Furthermore, for Al to be a reliable solution for social challenges, it must incorporate clear metrics that track and assess outcomes using measurable indicators. Whether it is reducing disaster response times, improving access to education, or enhancing public health, Al–driven solutions must be continuously assessed based on their connectedness with real–world results.

Al projects should also be designed for scalability and long–term benefits rather than short–lived pilot programs. A one–time demonstration of Al's capability is not enough; it must be integrated into long–term social frameworks, ensuring sustainability and continued improvement over time.

2. Focus on Vulnerable and Underserved Communities

One of the defining features of AI4SG is its commitment to bridging social and economic disparities. Many Al–driven innovations are designed for commercial industries, leaving marginalized and underserved populations without access to Al's benefits.AI4SG must prioritize these

communities, ensuring that Al is not just a tool for the privileged but a force for inclusion and equity (Tambe et al., 2022).

To respond positively for disruptive technology, AI4SG must emphasize equitable Al access. Many communities lack access to the financial, technological, or infrastructural resources to develop and deploy Al solutions. It is crucial that Al is made accessible to those who need it most, rather than being concentrated in regions or industries with significant financial backing.

Our Prime Minister also advocated for making AI accessible to all, especially the Global South, by developing open–source systems that enhance trust and transparency. He stressed the importance of creating people–centric applications and building quality datasets free from biases (MEA, 2025).

Thus, Al must work toward addressing digital inequality. The digital divide continues to grow, leaving millions without the opportunity to leverage Al for education, healthcare, or financial inclusion. AI4SG must actively work toward reducing thisgap, ensuring Al technologies reach rural, low–income, and technologically isolated populations.

3. Addressing Unexplored Challenges

Al's commercial focus has led to a concentration of resources on profit–driven applications, often overlooking critical humanitarian and societal challenges. AI4SG aims to fill these gaps, ensuring that Al is leveraged to solve issues that have traditionally been ignored due to a lack of immediate financial incentives (Tambe et al, 2022)

A prime example of this is Al in humanitarianand environmental initiatives. Al can be used to predict and mitigate the impact of climate change, assist in natural disaster relief efforts, and improve the efficiency of renewable energy solutions (HashStudioz Technologies, 2023) Al–driven conservation efforts, such as tracking endangered species through satellite imagery, have already shown the immense potential of Al in global sustainability.

To maximize impact, AI4SG must also encourage interdisciplinary collaboration. Al alone cannot solve every challenge it must work alongside social scientists, environmental researchers, and civil society organizations to ensure solutions are comprehensive, practical, and ethically sound.

4. Outcome–Driven, Not Technology–Oriented

Unlike traditional Al development, which often begins with a tech–nological breakthrough and then seeks applications for it, Al4SG follows an outcome–driven approach(Perrault et al., 2020). This means that the process begins with a societal challenge, and Al is only applied if it gen–uinely adds value to the solution.

The first step in this approach is adopting a problem–first mind set (Moon, 2020). Rather than pushing Al innovation for its own sake, Al must be strategically integratedinto existing solutions where it can make a meaningful impact. For instance, rather than replacing human teachers, Al should be developed to support educators by personalizing learning expe–riences for students.

Al4SG must also ensure that Al solutions are fit–for–purpose This means Al should be adapted to local needs, available data, and real–world conditions rather than blindly implementing Al models that were trained in vastly different environments. A healthcare Al system trained on West–ern patient data, for example, may not work effectively in developing nations unless it is fine–tuned to local medical conditions and patient demographics.

Another important concern is avoiding "tech solutionism."

Al should not be seen as a replacement for human judgment, par–ticularly in sensitive areas like criminal justice, healthcare, and public policy. While Al can be a powerful decision–support tool, it must be carefully monitored to prevent ethical violations, such as racial bias in policing or wrongful medical recommendations.

Foundational Principles of Ethical Artificial Intelligence

As artificial intelligence continues to shape modern society, the importance of ethical AI development and deployment cannot be overstat–ed. Al systems have the power to enhance human well–being, but without proper governance, they can also cause harm, reinforce inequalities, and operate without accountability.To mitigate these risks, Al must adhere to fundamental ethical principles that prioritize human dignity, fairness, and transparency.

The following five principles serve as the foundation for ensuring that Al is developed and used responsibly:

1. Beneficence: Al Must Serve the Greater Good

Al should be designed with the intent of enhancing human well–be–

ing and addressing societal challenges (Floridi et al., 2020), Ethical Al must not prioritize profit-driven motives over public interest; rather, it should be a tool to improve sectors like healthcare, education, and environmental sustainability.

2. Non-Maleficence: Al Must Avoid Harm

While Al holds immense potential for good, it also poses risks if not carefully regulated. The principle of non-maleficence ensures that Al does not cause harm-whether through bias, misinformation, or privacy violations (Floridi et al., 2020).

Developers must ensure that Al systems do not endanger human rights, dignity, or safety, particularly in high-stakes areas such as law enforcement, healthcare, and governan

3. Justice: AI Must Be Fair and Inclusive

Fairness in Al requires equitable access, unbiased decision-making, and protection against discrimination. Al systems must not reinforce existing social inequalities whether in hiring, law enforcement, or financial services. This means actively working to eliminate biases in training data and decision-making algorithms to prevent unfair outcomes (Floridi et al., 2020)

4. Autonomy: AI Should Empower, Not Override Human Decision-Making

Al must respect human agency and dignity, serving as a decision-support tool rather than a replacement for human judgment. While Al can analyse vast amounts of data with greater speed and accuracy, it should always operate under human oversight, ensuring that final decisions remain in human hands (UN, 2024).

5. Explicability: AI Must Be Transparent and Accountable

For AI to be trusted, it must be transparent in its decision-making processes. Black-box Al models, where the reasoning behind an Al's decision is unknown or too complex to interpret, erode public confidence and make it difficult to challenge biased or incorrect outcomes (UN, 2024).

Conclusion

The promise of Al for social good can only be realized if AI development is democratized, transparent, and accountable. One of the most

pressing challenges is the concentration of Alpower in a few corporations and technologically advanced nations. To counter this, open–source Al development and public–sector Al research must be expanded, ensuring that Al technologies are not monopolized by a select few but are accessible for widespread social and developmental applications. AI should also undergo formal Ethical Impact Assessments before large–scale implementation, similar to Environmental Impact Assessments (EIAs) that regulate industrial projects (Moon, 2020). These assessments should evaluate Al's potential consequences on marginalized communities, labour markets, and democratic processes, ensuring that Al does not reinforce structural inequalities or power imbalances.

References:

1. Ahn, J. S., Shin, S., Yang, S. A., Park, E. K., Kim, K. H., Cho, S. I.,Ock., C. Y., & Kim, S.   (2023), Artificial Intelligence in Breast Cancer Diagnosis and Personalized   Medicine. Journal of breast cancer, 26(5), 405–435. https://doi.org/10.4048/jbc.2023.26.c45

2. Bush,J.2019.How Al is Being Used to Map   Povertyhttps://www.electronicspecifier.com/products/artificial–intelligence/how–ai–is–   being–used–to–map–poverty

3. European Commission. (2019). Ethics guidelines for trustworthy Al. https://digital–strategy.ec.europa.eu/en/library/ethics–guidelines–trustworthy–ai

4. IndiaAl. 2020. Ai for Sustainable Water 11 Bengaluru. https://indiaai.gov.in/case-study/ai-for–   sustainable–water–in–bengaluru.

5. James Madison University. (2023). Al and Ethics in Education. Retrieved from https://guides.lib.jmu.edu/Al–in–education/ethics