**A Framework for Ethical AI in Healthcare**

AI might transform disease diagnosis, treatment, prevention, and management. AI challenges privacy, fairness, accountability, openness, and human dignity. Thus, healthcare AI systems and application design, development, deployment, and evaluation need an ethical framework. We present a framework for ethical AI in healthcare based on our study and AI ethical framework research sources. AI-based breast cancer screening and detection uses our technology. We explain how each theoretical criterion pertains to our use case and addresses ethical issues and risks.

AI systems in healthcare should enhance well-being and minimize harm to people and society, respecting users' beliefs, interests, and objectives. They should not intentionally or accidentally cause harm and have proper safeguards in place to prevent mistakes or failures. AI systems should respect individual and group autonomy, allowing informed choices regarding health and treatment. Users should have the right to access, manage, and amend their personal data and opt out of AI systems at any time.

Justice should be prioritized by AI systems in healthcare, being fair, equitable, inclusive, and not discriminatory based on their qualities or situations. They should divide the advantages and responsibilities of their usage fairly and proportionately, avoiding social inequities or injustices.

Transparency is essential for AI systems in healthcare, providing clear and accurate information about their goals, functions, performance, limits, and implications. Users and stakeholders should be able to understand, question, and dispute their choices and results, and access and verify the data and procedures used to create them.

AI systems must be accountable for their choices and consequences, adhering to appropriate laws, regulations, standards, and ethical principles. Users and stakeholders have the right to redress, remedy, and compensation for injuries or violations of their rights or interests, and can monitor, audit, and analyze their usage and effects.

AI for breast cancer screening and diagnosis is our use case. Breast cancer is the most frequent disease in women globally, and early identification and diagnosis improve survival and quality of life. AI can help radiologists and physicians analyze mammograms and other imaging modalities and make accurate and fast diagnoses and recommendations. Our approach offers the following advice to handle ethical challenges and risks:

Beneficence: The AI system should enhance the quality, effectiveness, and overall welfare of breast cancer screening and diagnosis for women and society. It should refrain from imposing diagnoses or recommendations on women, radiologists, and physicians, and instead, respect their views, choices, and aspirations.

Non-maleficence: AI systems must refrain from causing harm to women or society, whether intentionally or unintentionally. Additionally, it should proactively address and handle potential risks and uncertainties, such as incorrect positive and negative outcomes, instances of oversight, and incorrect categorizations. In order to prevent, identify, and resolve issues, it is crucial to include human oversight, input, and verification.

Autonomy: The AI system should uphold and safeguard the independence and self-determination of women, radiologists, and doctors, enabling them to make informed and voluntary decisions on screening and diagnosis. Additionally, it should ensure that women, radiologists, and physicians have the right to access, control, and modify their personal data and information, as well as the option to withdraw from the AI system at any time.

Equity: The AI system must give priority to fairness and avoid any kind of discrimination against certain groups of women based on factors such as age, race, ethnicity, or other distinguishing traits. Furthermore, it must ensure equitable and suitable distribution of its benefits and drawbacks, without exacerbating or generating other socioeconomic inequalities, such as differences in access, price, or quality of care.

Transparency: The AI system should possess the quality of being easily understood and capable of being explained, offering unambiguous and precise information on its objective, operation, effectiveness, constraints, and impacts. It should enable women, radiologists, and physicians to comprehend, scrutinize, and discuss its diagnosis and suggestions, as well as to get and verify the data and methodologies used in their development.

Accountability: The AI system must strictly comply with laws, regulations, standards, and ethical principles while performing diagnoses and making recommendations. Furthermore, it is imperative to provide women, radiologists, and physicians with the entitlement to seek redress, restitution, and reparation for any harm or infringement upon their rights or interests. Additionally, they should possess the capacity to oversee, scrutinize, and evaluate the utilization and consequences of such provisions.

The varied AI ethical framework research sources offered as reference materials informed our proposal for a healthcare ethical AI framework in this study. Our methodology has also been used in health care AI use cases including breast cancer screening and diagnosis. We discussed how each criterion of our approach applies to our use case and may handle ethical challenges and hazards. We expect our framework will help healthcare AI systems and application developers, users, and stakeholders progress and implement ethical AI.