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IIT-M & THSTI develop first India-specific AI model to determine foetus age

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Called â??Garbhini-GA2,â?? this AI model accurately estimates the age of a foetus in a pregnant woman



Researchers at Indian Institute of Technology Madras (IIT-M) and Translational Health Science and Technology Institute (THSTI), Faridabad, as part of 'Interdisciplinary Group for Advanced Research on Birth Outcomes – DBT India Initiative' (GARBH-Ini) programme, have developed the first India-specific Artificial Intelligence (AI) model to determine the age of a foetus in a pregnant woman in the second and third trimesters precisely.

Accurate 'Gestational Age' (GA) is necessary for the appropriate care of pregnant women and for determining precise delivery dates. Called 'Garbhini-GA2', this is the first late-trimester GA estimation model to be developed and validated using Indian population data. This GA model can improve the care delivered by obstetricians and neonatologists, thus reducing maternal and infant mortality rates in India.

The researchers used genetic algorithm-based methods to develop Garbhini-GA2, which, when applied in the second and third trimesters of pregnancy, was more accurate than the current Hadlock and recent INTERGROWTH-21st models.

This study was conducted in partnership with Gurugram Civil Hospital, Gurugram, Safdarjung Hospital, New Delhi, Christian Medical College Vellore, and Pondicherry Institute of Medical Sciences, Puducherry. The GARBH-Ini programme is a flagship programme of the Department of Biotechnology (DBT), Govt of India.

Once validated in prospective pan-India cohorts, this Garbhini-GA2 can be deployed in clinics across India, improving the care delivered by obstetricians and neonatologists, thus reducing maternal and infant mortality rates in India.