

SNEHA AI TOOLKIT



Image-based Attendance Tracking:

Facial-recognition technology is used to capture the attendance of children present at Anganwadi centres. Faces of children are identified from group photographs by matching them to the reference photographs.



Height Capture

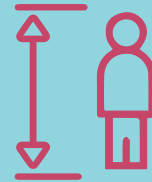


Image-based Height Capture:

A child's height is captured accurately by taking his/her photograph by a mobile phone. The image is GPS tagged and timestamped. This not only ensures ease of use for Anganwadi workers but also provides evidence of measurement along with desired accuracy. The computed height is automatically mapped onto the WHO height-for-age charts to detect cases of severe and moderate stunting.



Image-based BMI Calculation:

CSTEP is actively investigating advanced technologies for Body Mass Index (BMI) calculation.



Weight Capture

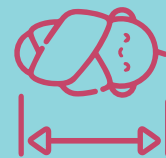


Image-based Length Capture of Infants:

Detecting stunting in the early stages of a child's growth can help reverse its impact. The length of a baby is difficult to measure because the baby is not usually lying down straight. This module will accurately compute the length (height) of the infant in the lying down position through a photograph. The desired straightening of the limbs will be achieved algorithmically.



Anaemia Risk Measurement through Photographs:

Anaemia in women and children is on the rise. CSTEP is developing a solution which measures haemoglobin levels through pallor of eyes and nails using photographs taken by mobile phones.

SNEHA: AI for Health and Nutrition

India has a significant problem of child malnutrition. It is a predominant cause of early mortality and lifelong disabilities. The stunting of children under the age of 5 stands at a staggering 39%. The situation is equally worrisome for mothers. There is a high propensity of anaemia and malnutrition among the women.

Through its SNEHA platform, Center for Study of Science, Technology and Policy (CSTEP) aims to provide a range of Information and Communications Technology (ICT) and Artificial Intelligence (AI) solutions for managing every aspect of health and malnutrition.

SNEHA, which stands for Solution for Nutrition and Effective Health Access, is developed with inclusive design principles in collaboration with field functionaries, doctors, and administrators.

Need for Evidence and Accuracy

Accurate and evidence-based data is critical for tracking the health and nutrition of children and women. Evidence is required for ensuring that the services are provided on time and accuracy is required to ensure that the data is actionable. The SNEHA AI toolkit allows field functionaries such as Anganwadi workers to capture health data accurately and provide evidence of measurement of important health parameters of children and mothers in a minimally intrusive way.

As a result, any detection of health jeopardy like stunting, wasting, or anaemia is flagged off to field workers, health functionaries, and their supervisors. Periodical reminders are sent for appropriate and timely actions.

About CSTEP

The Center for Study of Science, Technology and Policy (CSTEP) is a multidisciplinary policy research organisation, working in the areas of Renewable Energy, Power, Urban Development, Materials and Storage, Climate Studies, Air Pollution and Artificial Intelligence for Development. Its mission is to enrich policymaking with innovative approaches using science and technology for a sustainable, secure and inclusive society. Our vision is to become the foremost institution for policy innovation and analysis. CSTEP—recognised as a Scientific & Industrial Research Organisation (SIRO) by the Department of Scientific and Industrial Research (Government of India)—constantly aims at science and technology-enabled policy options for an inclusive and equitable economic growth.



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