

Clinical development of Computer Vision Algorithm to determine post-natal gestation age using an App

D Sharkey¹, C Henry¹, M Valstar², M Torres Torres²

¹Academic Child Health, School of Medicine, ²School of Computer Science

The Clinical Rationale

Global neonatal mortality remains high at 23/1000 live births (UNICEF 2011) with the majority of these deaths occurring in LMI countries such as India, China and those in Sub-Saharan Africa. Better estimation of gestational age, and hence prematurity, could help improve this through targeted programs tackling prematurity. Antenatal scans are not routinely available in LMIs which is a major roadblock.



Source: UNICEF, WHO, The World Bank, UNFPA. 2013. Levels and Trends in Child Mortality, report 2013.

Our Technological Solution

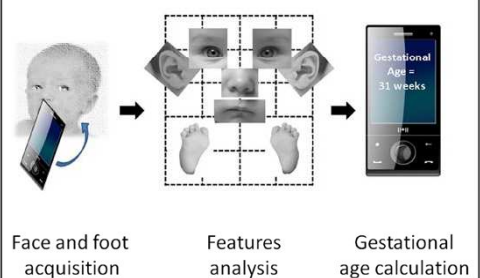
We developed advanced computer vision techniques that will enable a non-trained care providers estimate the gestational age of a newborn baby. Using a smartphone App, the user simply takes three images, one each of the face, ear and foot. The software algorithm is then able to calculate the gestational age and signpost the user to the medical care required.



Benefits for Children

With millions of preterm births in LMI countries, where medical care is scarce yet smartphone use common, this technology could be used to identify pockets of prematurity in populations. This could allow the WHO and UN to put in place interventions to improve the outcomes for these vulnerable babies. It will also allow local healthcare systems provide more focused care in their regions.

Face and Foot gestational assessment tool



For more information email:
don.sharkey@nottingham.ac.uk

BILL & MELINDA
GATES foundation