

Baby FaceReader

Since young infants are unable to provide verbal feedback, their facial expressions can provide the insights you search for.

Baby FaceReader automatically measures Action Units, valence, and arousal in infants aged 6 to 24 months. It classifies Action Units associated with typical expressions (e.g. smiling and crying) and allows you to define your own custom expressions based on these measures.

Baby FaceReader is a unique and complete solution that will help you:

- Analyze infant responses to audio, taste, odor, visual, and other sensory stimuli
- Identify gaze direction and head orientation
- Measure vital signs, such as heart rate, remotely
- Detect the expressive behaviors that occur during parent-child interactions
- Examine how the cognitive information processing of infants works
- Address questions in developmental psychology related to affect and developmental disorders

Baby FaceReader blog post

Baby FACS

Baby FaceReader uses Baby FACS[1] to describe specific movements of an infant's face. Baby FACS has been developed by Professor Oster, since infant faces are different from adult faces. Their faces are smaller, rounder, have a considerable amount of subcutaneous fat, elastic skin and often have little to no eyebrows.

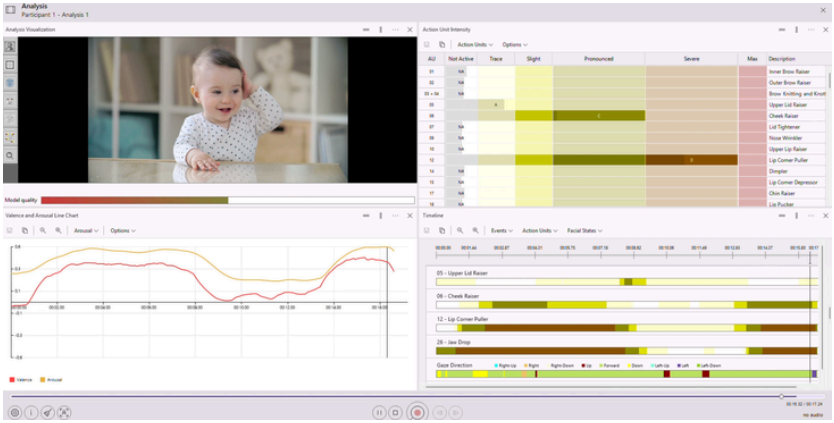
Since a large labelled dataset of basic expressions is missing for infants, Baby FaceReader does not classify basic emotions.

Detecting risk for developmental disorders

Baby FaceReader enables you to study early affect and development through automated analysis of infant facial expressions. Use it to explore research questions on developmental disorders such as Autism Spectrum Disorder (ASD) and attention-deficit hyperactivity disorder (ADHD).

Quantifying infants' facial expressions can assist studies in parent-child interaction and shed light on how we can possibly achieve early detection of these developmental disorders.

[1] Baby FaceReader is an automated tool to provide Baby FACS indications; official certification in Baby FACS requires training from an instructor certified by Professor Harriet Oster.



Infant responses to food

Does your infant's food taste sweet or sour? With Baby FaceReader you can find the answer. It makes it possible to identify infants' responses to tastes. For example, the taste of something sweet will result in a facial relaxation, indicating that the infant experienced the sweet taste as pleasant.
In contrast, a non-sweet taste will involve certain facial
muscle actions indicating an unpleasant experience.

Measure gaze behavior

Baby FaceReader allows researchers to closely follow gaze behavior of infants with eye parameters such as gaze direction, gaze angle, and facial states (e.g. eyes open or closed). oreover, the measurement of head orientation and head position are useful metrics for details on gaze behavior.

Besides, using the Action Unit classification of Baby FaceReader together with the above mentioned metrics will offer you extended information on eye/head-related behaviors.

Detect vital signs remotely

For even richer insights into infant behavior and well-being, you can measure vital signs. This functionality uses Remote Photoplethysmography (RPPG), a non-invasive technique, to accurately estimate an infant's heart rate.

In addition, it can also derive their breathing rate remotely, allowing you to collect physiological and behavioral data simultaneously.

Contact us for more information

References

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