IMOTIONS®

Software Updates
Fall / Winter 2023

What's new with iMotions?
Updates in Fall / Winter 2023

As we approach the end of 2023, we can look back on a productive and feature-filled range of software releases. We are proud to have brought a new module - voice analysis - to users, in partnership with audEERING. We have also introduced new features in the way of speech-to-text, emotional heatmaps, and intersubject correlation calculations for EEG data. Improvements have also been made to several eye tracking glasses, our integrations with Smart Eye devices have strengthened, and several upgrades have made the iMotions software even faster and more capable than ever before. We will continue to build on these successes, and we look forward to introducing even more new features and capabilities to you in the near future.

A complete overview of all software releases is available in the Help Center here. If you would like to learn more about these features beyond what is listed in this document, or would like to suggest future changes to the software, feel free to reach out to your Customer Success Manager. We strive to build the software that will help you every step of the way in your research, and we can't wait to see what you will produce in the coming months with iMotions. Thank you for helping us all build a more human future together.

New module: voice analysis

With iMotions 9.4 we are excited to introduce a brand new module - voice analysis. Powered by audEERING, the voice analysis module allows for analysis at every level of vocal production. Go deep into emotion analysis and collect data related to emotion detection (angry, happy, sad, neutral), and emotional valence (arousal, dominance, and valence). It's also possible to explore fundamental voice features with metrics relating to prosody, including pitch, loudness, speaking rate, and intonation, as well as data regarding perceived gender and age. Any audio data - whether recorded within an experiment, or simply imported into iMotions, can be processed with audEERING's voice analysis algorithms. All data processing takes place offline on your own hardware, ensuring full control of the data.

This module can also be easily combined with the new speech-to-text feature to assess the semantic value of words alongside the valence related to their production.

Read more about voice analysis in our pocket guide here, and about the module here. You can also find documentation in our Help Center here, and information about voice analysis data here.

New feature: speech-to-text

You can now submit data to AssemblyAI for speech-to-text transcription. This feature provides both a transcription of spoken words, and carries out sentiment analysis, by measuring the semantic content of the spoken words. The feature also provides automatic annotations for each moment of speaking, for each speaker. Processing is applied after data has been collected, and is available for nine languages, including four dialects of English.

You can read more about the process of processing speech-to-text in our Help Center here, and you can read more about AssemblyAI on their website here.

New feature: EEG intersubject correlation calculation

You can now calculate and export EEG intersubject correlation scores. This is available as a new R notebook, and provides insights about how well synchronized the EEG signals are from multiple participants. This metric has been well-established in research and is seeing increasing use and deployment within a range of new disciplines and industries. The metric is particularly valuable when assessing the shared level of engagement between participants while they watch or listen to stimuli. Examples of neural synchrony being applied in real world research are available in this report available here, and in the Help Center article here.

New feature: emotional heatmaps

We are excited to release emotional heatmaps - gaze plots that color code what facial expression your respondents made when looking at the different areas of an image and other static visuals. Facial expression analysis is calculated and aggregated for each static stimulus - any of those metrics can be selected to form the basis of the emotional heatmap. This can provide a quick and singular overview of how participants' facial expressions change while they view an image. You can find more information about implementing emotional heatmaps in the Help Center article [here](#).
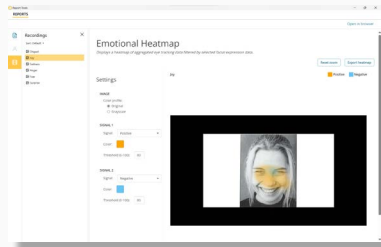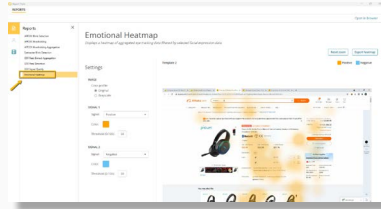
New feature: EMG contraction classifications

We added new functionalities when working with EMG data! Contractions can now be classified using two different methods - standard deviation and percentage of the maximum voluntary contraction (MVC). These classifications are surfaced as events, and made available in summary exports. We also included descriptions of all EMG related signals generated by iMotions. An overview of the new classifications can be found in this [Help Center article](#), including a video walkthrough of these algorithms and when to apply them.
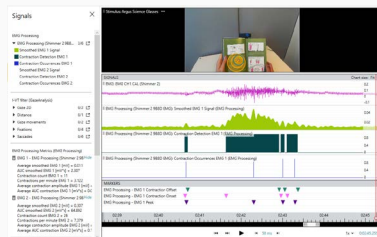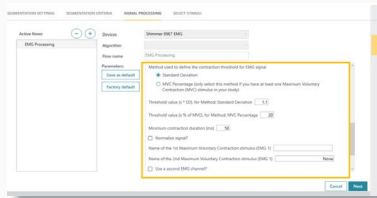
New feature: detailed blink detection

Motions now gives you more detailed blink statistics, events, and exports both for data from facial expression analysis (Affectiva) as well as eye tracking data. You can find more information about blink detection with eye tracking in this Help Center article here, and with facial expression analysis in this article here.

Glasses improvements

A variety of improvements and additions have been made to several eye tracking glasses systems.
This includes updated import options for Pupil Labs studies, helping to streamline the research workflow. Gyroscope, accelerometer, pitch, and roll data are now available for Neon by Pupil Labs. You can now also import both Raw Sensor Data and Timeseries Data downloaded from Pupil Cloud into iMotions. Finally, it's also possible to re-import data from Pupil Cloud with fisheye correction.
Additionally, the Viewpointsystem glasses now support the exporting of .mp4 videos, and updates to the UI now also provide improved information when importing eye tracking glasses data from the wrong folder, smoothing out study processes.

Improved integration with Smart Eye devices

We have improved and enhanced our integrations with Smart Eye devices. This includes improvements to the integration with Smart Eye's Smart Recorder, such as the ability to generate eye tracking studies collected with the Smart Recorder for further analysis in iMotions. It is also possible to post-import Smart Recorder data into iMotions to synchronize it with other simultaneously recorded biosensors. The version lock has also been removed, and handling of non-standard file naming has been improved.
For Smart Eye Pro devices, iMotions now natively supports world model load notifications, and also provides an option to skip gaze calibration. Improvements have also been made to the scene calibration usability of Smart Eye Pro. When defining the world model, it is now more obvious what orientation the objects have. Finally, iMotions is now able to detect changes in the Smart Eye Setup Tool and forward that information to the connected Smart Eye Tracker, and support for the new Speaking signal has also been added.
All of these changes help to make it easier and more streamlined to carry out advanced research with Smart Eye eye trackers.

Improvements to performance

In addition to the specific feature or device integration enhancements, we also made a variety of more general improvements to the efficiency, flexibility, and functionality of iMotions. This includes upgrades to the sensor data export, which is now significantly faster, as well as significant improvements to how iMotions collects videos. We have also updated the user interface, allowing you to submit issues to support directly from the software. It is now also possible to correct the lag of a sensor individually per respondent, which is well-suited to addressing any inherently unpredictable lag issues that can be associated with WiFi connections or multiple video feeds. Similar to this, we have also added the option to use Lab Streaming Layer (LSL) timestamps when loading signals.
Finally, we have also optimized the UI performance for studies with many AOI events.

Other updates

Updates have also been made to other areas of the software, including, but not limited to, simplifying how Support can help you to unlock a license, being able to sort studies by file size in addition to name and date, and audio now always being captured in stereo. iMotions now also supports an animated calibration for Online Data Collection. Finally, improvements to LSL data collection now mean that if data is lost from an LSL device, the data graphs will indicate a gap at the time of data loss if the LSL timestamp is used.

We hope you have enjoyed the updates to iMotions as much as we have enjoyed building them for you. We look forward to continuing to enhance iMotions wherever possible to meet your research needs.

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Download the latest version of iMotions here

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Synchronize, visualize and analyze your research with eye tracking, facial expression analysis, electrodermal activity, voice analysis, surveys, ECG and much more in one software platform.

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