CLAIMS

1. A method, comprising:

receiving sensor data of a subject, wherein the sensor data includes eye tracking data and visible light image data;

using one or more processors to automatically analyze the sensor data to determine one or more metrics; and

using the one or more metrics to determine an indicator associated with a likelihood the subject is being deceptive.

2. The method of claim 1, wherein the one or more metrics include a pupil feature, a fixation duration, a gaze target, a response pause time, a blink rate, a heart rate, or a respiration rate.

3. The method of claim 1, wherein the one or more metrics are associated with one or more detected micro expressions, and wherein the one or more detected micro expressions include a lip press, a chin raise, a shoulder shrug, a mouth shrug, or a lip shrug.

4. The method of claim 1, further comprising:

using the one or more processors to automatically analyze the sensor data to determine one or more baseline metrics of the subject.

5. The method of claim 1, wherein the sensor data includes thermal sensor data and audio data, and wherein the method further comprises using the one or more processors to automatically analyze the thermal sensor data to determine a respiration rate.

6. The method of claim 5, wherein the method further comprises:

generating a three-dimensional mesh of a face of the subject based on the sensor data to dynamically locate one or more facial landmarks including the nostrils;

cropping thermal image data based on the located one or more facial landmarks to spatially isolate an area associated with the nostrils; and

applying the trained deep learning model to the cropped thermal image data to predict the respiration rate of the subject, wherein predicting the respiration rate comprises detecting a frequency of cyclical temperature changes corresponding to ambient air entering the nostrils and body-temperature associated air exiting the nostrils.

7. The method of claim 1, wherein the indicator is a percentage value or a Boolean value, or wherein the indicator is associated with a fixation heatmap user interface component, a baseline user interface component, a blink rate user interface component, a pause time user interface component, or a micro-expressions user interface component.

8. The method of claim 1, further comprising automatically detecting a behavioral cue associated with the determined one or more metrics, and automatically predicting an emotion response associated with the detected behavioral cue.

9. The method of claim 1, further comprising storing the one or more determined metrics and the determined indicator associated with the likelihood the subject is being deceptive in a remote data store.

10. A system, comprising:

one or more processors; and

a memory coupled to the one or more processors, wherein the memory is configured to provide the one or more processors with instructions which when executed cause the one or more processors to:

receive sensor data of a subject, wherein the sensor data includes eye tracking data and visible light image data;

automatically analyze the sensor data to determine one or more metrics; and using the one or more metrics, determine an indicator associated with a likelihood the subject is being deceptive.

11. The system of claim 10, wherein the one or more metrics include a pupil feature, a fixation duration, a gaze target, a response pause time, a blink rate, a heart rate, or a respiration rate.

12. The system of claim 10, wherein the one or more metrics are associated with one or more detected micro expressions, and wherein the one or more detected micro expressions include a lip press, a chin raise, a shoulder shrug, a mouth shrug, or a lip shrug.

13. The system of claim 10, wherein the memory is further configured to provide the one or more processors with the instructions which when executed cause the one or more processors to automatically analyze the sensor data to determine one or more baseline metrics of the subject.

14. The system of claim 10, wherein the sensor data includes thermal sensor data and audio data, and wherein the one or more processors are being configured to:

generate a three-dimensional mesh of a face of the subject based on the sensor data to dynamically locate one or more facial landmarks including the nostrils;

crop thermal image data based on the located one or more facial landmarks to spatially isolate an area associated with the nostrils; and

apply the trained deep learning model to the cropped thermal image data to predict the respiration rate of the subject, wherein the predicting of the respiration rate comprises detecting a frequency of cyclical temperature changes corresponding to ambient air entering the nostrils and body-temperature associated air exiting the nostrils.

15. A computer program product, the computer program product being embodied in a non-transitory computer readable storage medium and comprising computer instructions for:

receiving sensor data of a subject, wherein the sensor data includes eye tracking data and visible light image data;

using one or more processors to automatically analyze the sensor data to determine one or more metrics; and

using the one or more metrics to determine an indicator associated with a likelihood the subject is being deceptive.