

**WHAT IS CLAIMED IS:**

1. A computer-implemented system for processing real-time video, the system comprising:
  - an input port for receiving real-time video obtained from a medical image device;
  - a first bus for transferring the received real-time video;
  - at least one processor configured to receive the real-time video from the first bus, perform object detection by applying a trained neural network on frames of the received real-time video, and overlay a border indicating a location of at least one detected object in the frames;
  - a second bus for receiving the video with the overlaid border;
  - an output port for outputting the video with the overlaid border from the second bus to an external display; and
  - a third bus for directly transmitting the received real-time video to the output port.
2. The system of claim 1, wherein the third bus is activated upon receipt of an error signal from the at least one processor.
3. The system of any preceding claim, wherein at least one the first plurality of images and the second plurality of images comprise images from imaging device used during at least one of a gastroscopy, a colonoscopy, an enteroscopy, or an upper endoscopy, optionally including an endoscopy device.

4. The system of any preceding claim, wherein the at least one detected object is an abnormality, and wherein the abnormality optionally comprises a formation on or of human tissue, a change in human tissue from one type of cell to another type of cell, and/or an absence of human tissue from a location where the human tissue is expected.
5. The system of claim 4, wherein the abnormality comprises a lesion, optionally including a polypoid lesion or a non-polypoid lesion.
6. The system of any preceding claim, wherein the overlaid border comprises a graphical pattern around a region of the image including the at least one detected object, the pattern being displayed in a first color.
7. The system of claim 6, wherein the at least one processor is further configured to, after an elapsed period of time, modify the pattern to be displayed in a second color when the at least one detected object is a true positive and further modify the pattern to be displayed in a third color if the at least one detected object is a false positive.
8. The system of claim 7, wherein the at least one processor is further configured to transmit a command to one or more speakers to produce a sound when the pattern of the border is modified and/or to transmit a command to at least one wearable apparatus to vibrate when the pattern of the border is modified.

9. The system of claim 8, wherein at least one of duration, tone, frequency, and amplitude of the sound depends on whether the at least one detected object is a true positive or a false positive and/or at least one of duration, frequency, and amplitude of the vibration depends on whether the at least one detected object is a true positive or a false positive.

10. A computer-implemented system for processing real-time video, the system comprising:

- an input port for receiving real-time video obtained from a medical image device;

- at least one processor configured to receive the real-time video from the input port, perform object detection by applying a trained neural network on frames of the received real-time video, and overlay a border indicating a location of at least one detected object in the frames;

- an output port for outputting the video with the overlaid border from the at least one processor to an external display; and

- an input device for receiving a sensitivity setting from a user,

- wherein the processor is further configured to adjust at least one parameter of the trained neural network in response to the sensitivity setting.

11. The system of claim 10, wherein at least one the first plurality of images and the second plurality of images comprise images from imaging device used during at least one of a gastroscopy, a colonoscopy, an enteroscopy, or an upper endoscopy, optionally including an endoscopy device.

12. The system of any preceding claim, wherein the at least one detected object is an abnormality, and wherein the abnormality optionally comprises a formation on or of human tissue, a change in human tissue from one type of cell to another type of cell, and/or an absence of human tissue from a location where the human tissue is expected.

13. The system of claim 12, wherein the abnormality comprises a lesion, optionally including a polypoid lesion or a non-polypoid lesion.