CLAIMS

What is claimed is:

1. A computer-implemented method for determining a significant slice associated with a tumor from a volume of medical images, the computer-method comprising:

classifying lists of consecutive slices selected via a sliding window over all the volume slices into respective labels indicating, for each list of consecutive slices, whether the tumor area is growing, declining or not visible;

creating a discrete integral function out of the labels over all the slices in the volume;

applying post processing on the discrete integral function, including a smoothing function and a bias correction; and

selecting, as the significant slice, the slice index at which the post-processed discrete integral function has a maximum value.

2. The computer-implemented method of claim 1,

wherein the slice index is determined using an arguments-of-the-maxima (argmax) method.

3. The computer-implemented method of claim 1, wherein the volume of medical images comprises one of an MRI (Magnetic Resonance Imaging) scan, a CT (Computerized tomography) scan and a Tomosynthesis scan; and

wherein each list comprises a predefined number of consecutive volume slices.

4. The computer-implemented method of claim 1, wherein the smoothing comprises applying a Least Square Error (LSE) method.

5. A computer program product for determining a significant slice associated with a tumor from a volume of medical images, the computer program product comprising:

one or more computer readable storage media and program instructions stored on the

one or more computer readable storage media, the program instructions comprising:

program instructions to classify lists of consecutive slices selected via a sliding window over all the volume slices into respective labels indicating, for each list of consecutive slices, whether the tumor area is growing, declining, or not visible;

program instructions to create a discrete integral function out of the labels over all the slices in the volume;

program instructions to apply post processing on the discrete integral function, including a smoothing function and a bias correction; and

program instructions to select, as the significant slice, the slice index at which the post-processed discrete integral function has a maximum value.

6. The computer program product of claim 5,

wherein the slice index is determined using an arguments-of-the-maxima (argmax) method.

7. The computer program product of claim 5, wherein the smoothing comprises applying a Least Square Error (LSE) method.

8. A computer system for determining a significant slice associated with a tumor from a volume of medical images, the computer system comprising:

one or more computer processors;

one or more computer readable storage media;

program instructions stored on the one or more computer readable storage media for execution by at least one of the one or more computer processors, the program instructions comprising:

program instructions to classify lists of consecutive slices selected via a sliding window over all the volume slices into respective labels indicating, for

each list of consecutive slices, whether the tumor area is growing, declining, or not visible;

program instructions to create a discrete integral function out of the labels over all the slices in the volume;

program instructions to apply post processing on the discrete integral function, including a smoothing function and a bias correction; and

program instructions to select, as the significant slice, the slice index at which the post-processed discrete integral function has a maximum value.

9. The computer system of claim 8,

wherein the slice index is determined using an arguments-of-the-maxima (argmax) method.

10. The computer system of claim 8, wherein the smoothing comprises applying a Least Square Error (LSE) method.

11. The computer system of claim 8, wherein the volume of medical images comprises one of an MRI (Magnetic Resonance Imaging) scan, a CT (Computerized tomography) scan and a Tomosynthesis scan; and

wherein each list comprises a predefined number of consecutive volume slices.