CLAIMS:

1. A method for classifying tissue in a thermal image of a breast as being tumorous, the method comprising:

receiving a thermal image of a breast of a patient for breast cancer screening;

identifying at least one block of pixels in the thermal image;

classifying the block of pixels comprising:

determining (R_1) whether k_1% of the block of pixels have a temperature above a first threshold θ_1 based on a temperature distribution of pixels in the block;

determining (R_2) whether k_2% of the block of pixels have a temperature above a second threshold ($T_{max} - \theta_2$), where T_{max} is a maximum body temperature of the patient;

determining (R_3) whether k_3% of a block of pixels in the thermal image have a temperature below a threshold θ_3 based on normal body surface temperature;

determining (R_4) whether an edge length of a block of pixels is k_4% of a perimeter of the block; and

using a decision rule based on (R_1, R_2, R_3, R_4) to classify the tissue as being tumorous or non-tumorous; and

communicating the classification to display device,

wherein the temperature thresholds θ_1, (Tmax-θ_2) and θ_3 are patient-dependent and are based on the temperature distribution over a given block of pixels in the thermal image of the patient.

2. The method of claim 1, wherein the decision rule comprises a weighted sum of (R_1, R_2, R_3, R_4) wherein the weights are based on medical experience.

3. The method of claim 1, wherein the decision rule comprises a majority rule of (R_1, R_2, R_3, R_4).

4. A software interface tool for classifying tissue in a thermal image of a breast as being tumorous, comprising:

a patient details object which enables a user to enter, edit, and save patient information; and

a tissue segmentation object which enables a user to identify a block of pixels from the thermal image;

a tumor classification object which, upon selection, executes machine readable program instructions for performing:

determining (R_1) whether k_1% of the block of pixels have a temperature above a first threshold θ_1 based on a temperature distribution of pixels in the block;

determining (R_2) whether k_2% of the block of pixels have a temperature above a second threshold ($T_{max} - \theta_2$), where T_{max} is a maximum body temperature of the patient;

determining (R_3) whether k_3% of a block of pixels in the thermal image have a temperature below a threshold θ_3 based on normal body surface temperature;

determining (R_4) whether an edge length of a block of pixels is k_4% of a perimeter of the block; and

classifying, based on a decision rule based on (R_1, R_2, R_3, R_4), tissue as being tumorous or non-tumorous,

wherein the temperature thresholds θ_1, (Tmax-θ_2) and θ_3 are patient-dependent and are based on the temperature distribution over a given block of pixels in the thermal image of the patient.

5. The software interface tool of claim 4, wherein the patient information is any of: a personal data, patient complaints, medical history, examination details, and date.

6. The software interface tool of claim 4, further comprising a search object which enables a user to search patient records based on any of: name, age, race, sex, diagnosis, demographics, and date.

7. The software interface tool of claim 4, arranged for the patient data to be stored and viewable based on historical data entry.

8. The software interface tool of claim 4, further comprising a marking object which enables a user to perform any of: a manual and an automatic selection of breast tissue in the displayed thermal image for breast cancer screening.

9. The software interface tool of claim 4, further comprising a statistical analysis object which enables a user to perform a statistical analysis with respect to any of: patient information, tumor detection, diagnosis, demographics and thermal images.

10. The software interface tool of claim 4, further comprising a modalities object configured to (i) generate a report comprising patient evaluation and relevant data based on the classification and (ii) enable a user to enter, edit, view, save and retrieve patient data comprising any of: surgeries, mammography details, sonomammography findings, x-rays, biopsies, pathology reports, physician notes, and images.

11. The software interface tool of claim 4, wherein a dynamic representation of the data inputs will be shown depending on the entry of the inputs.

12. The software interface tool of claim 4, configured for the patient data including data modalities to be dynamically and automatically parsed and retrieved through an information architecture and displayed to the user.

13. The software interface tool of claim 4, further comprising a transmit object which enables a user to upload any patient data to a remote device.

14. The software interface tool of claim 4, further comprising a camera object which enables a user to manipulate a thermal camera acquiring the thermal images or video.

15. The software interface tool of claim 4, further comprising an orientation object which enables a user to change a view angle of the breast in the thermal image.

16. The software interface tool of claim 4, configured for the thermal image to be pre-processed using image processing techniques to obtain a visualization suitable for further examination by a user.

17. The software interface tool of claims 4, further comprising an isotherm object which enables a user to display 2D and 3D contour lines on the thermal image at a desired resolution, the contour lines bounding pixels in the thermal image having substantially similar temperature values.

18. The software interface of claims 4, further comprising a view angle object configured to automatically determine a view angle of the breast in the thermal image views using the body contours and shape.

19. The software interface tool of claim 4, further comprising a comments object which enables a user to enter the thermo-biological score of the patient and quadrant-wise comments for right breast and left breast with respect to the captured thermal images along with any other medically relevant comments deemed necessary.

20. The software interface of claim 4, configured for the software interface for breast cancer screening to be implemented in a networked architecture comprising a plurality of computer workstations.

21. The software interface of claim 20, wherein the networked architecture further comprises a cloud-based storage and processing.