

CLAIMS

1. A method of analyzing a whole scale radiograph, the method comprising:

receiving the whole scale radiograph;

(a) resizing the whole scale radiograph to reduce the dimension of the radiograph;

(b) applying a model stored in a memory;

(c) analyzing the resized whole scale radiograph of step (a) without identifying a specific anatomical site based on the model of step (b);

(d) determining the resized whole scale radiograph including a presence of fracture;

(e) generating an indication indicative of the determination of step (d); and

(f) transmitting the indication of step (e),

wherein said applying a model of step (b) comprising:

receiving training data from a dataset, the training data including a plurality of training images, each training image includes diagnosis data;

developing the model using the training data; and

storing the model in the memory, and

wherein said analyzing the resized whole scale radiograph of step (c) comprising

augmenting the resized whole scale radiograph, said augmenting comprises:

zooming of the whole scale radiograph;

flipping the whole scale radiograph horizontally;

flipping the whole scale radiograph vertically; and

rotating the whole scale radiograph.

2. The method of claim 1, wherein said applying a model of step (b) further comprising:

identifying a portion of each training image, wherein the portion includes the diagnosis data; and

developing the model using the training data and the portion identified.

3. The method of claim 1, wherein said developing the model comprising using machine learning technique or deep neural network learning technique.

4. The method of claim 1, wherein the indication is a heatmap.

5. The method of claim 1, wherein the presence of fracture comprise fracture in a hip or pelvic region and analyzing the resized whole scale radiograph based on the model does not require the identification of the femoral neck in the resized whole scale radiograph, wherein the whole scale radiograph is a frontal pelvic radiograph.

6. The method of claim 5, wherein the frontal pelvic radiograph is 2,128 x 2,248 pixels to 2,688 x 2,688 pixels and the resized frontal pelvic radiograph is less than 2000 x 2000 pixels.

7. A system of analyzing a whole scale radiograph, the system comprising:

a scanner for receiving the whole scale radiograph;

a processor being configured to:

(a) resize the whole scale radiograph to reduce the dimension of the whole scale radiograph;

(b) apply a model;

(c) analyze the resized whole scale radiograph of step (a) without identifying a specific anatomical site based on the model of step (b); and

(d) determine the resized whole scale radiograph comprising a presence of fracture;

- (e) generate an indication indicative of the determination of step (d); and
- (e) display the indication of step (e),

wherein said apply a model of step (b) comprising

- receiving training data from a dataset, the training data including a plurality of training images, each training image includes diagnosis data;
- developing the model using the training data; and
- storing the model in the memory, and

wherein said analyze the resized whole scale radiograph of step (c) comprising augmenting the whole scale radiograph, said augmenting comprises:

- zooming of the whole scale radiograph;
- flipping the whole scale radiograph horizontally;
- flipping the whole scale radiograph vertically; and
- rotating the whole scale radiograph.

8. The system of claim 7, wherein said apply a model of step (b) further comprising:
 - identifying a portion of each training image, wherein the portion includes the diagnosis data; and
 - developing the model using the training data and the portion identified.
9. The system of claim 7, wherein said developing the model comprising using machine learning technique or deep neural network learning technique.
10. The system of claim 7, wherein the indication is a heatmap.
11. The system of claim 7, wherein the presence of fracture comprise fracture in a hip or pelvic region and analyze the resized whole scale radiograph based on the model

does not require the identification of the femoral neck in the resized whole scale radiograph, wherein the whole scale radiograph is a frontal pelvic radiograph.

12. The system of claim ~~7~~11, wherein the frontal pelvic radiograph is 2,128 x 2,248 pixels to 2,688 x 2,688 pixels and the resized frontal pelvic radiograph is less than 2000 x 2000 pixels.