

CLAIMS:

1. A system for generating a diagnostic model, the system comprising a processor configured to:
 - analyse a plurality of reference data sets, each reference data set comprising at least one image, the analysis comprising identifying at least one feature in each image;
 - calculate at least one metric in dependence on the at least one identified feature;
 - acquire outcome data associated with at least some of the reference data sets; and
 - compile the diagnostic model in dependence on the at least one calculated metric and the associated outcome data;wherein each reference data set comprises first and second images, the processor being configured to analyse each reference data set to:
 - identify at least one first feature in the first image, and identify at least one second feature in the second image, each at least one first feature being paired with a corresponding one of the at least one second feature; and
 - compare each pair of corresponding first and second features to identify one or more difference therebetween;wherein the processor is configured to calculate the at least one metric in dependence on the one or more difference identified between each pair of corresponding first and second features;
 - wherein the first image comprises a first end systolic image and the second image comprises a second end diastolic image, the one or more difference identified between each pair of corresponding first and second features represents a cardiac cyclic change; and
 - wherein the outcome data comprises diagnostic information and is associated with a corresponding set of data in the reference data set; and
 - wherein the diagnostic model is updated when new outcome data associated with a corresponding set of data in the reference data set becomes available, or when the outcome data associated with a corresponding set of data in the reference data set is updated.
2. A system as claimed in claim 1, wherein the processor is configured to label the images in dependence on the outcome data.
3. A system as claimed in claim 2, wherein the label distinguishes between different classifications.

4. A system as claimed in any one of the preceding claims, wherein the diagnostic information comprises a record of a cardiac event, such as a myocardial infarction.
5. A system as claimed in any one of the preceding claims, wherein the outcome data comprises a record of stenosis greater than a threshold value.
6. A system as claimed in any one of the preceding claims, wherein the processor is configured to determine a weighting for at least some of the calculated metrics, each weighting being determined in dependence on the outcome data associated with a given one of the reference data sets.
7. A system as claimed in any one of the preceding claims, wherein the diagnostic model is compiled in dependence on the calculated metrics and the associated weightings.
8. A system as claimed in any one of the preceding claims, wherein the processor is configured to implement a machine learning algorithm to generate the diagnostic model.
9. A system as claimed in any one of the preceding claims, wherein the processor is configured to analyse further reference data sets; and to update the diagnostic model in dependence on the analysis of the further reference data sets.
10. A method of generating a diagnostic model, the method comprising:
 - analysing a plurality of reference data sets, each reference data set comprising at least one image, the analysis comprising identifying at least one feature in each image;
 - calculating at least one metric in dependence on the at least one identified feature;
 - acquiring outcome data associated with at least some of the reference data sets; and
 - compiling the diagnostic model in dependence on the calculated metrics and the associated outcome data;wherein each reference data set comprises first and second images, the method comprising analysing each reference data set to:
 - identify at least one first feature in the first image, and identify at least one second feature in the second image, each at least one first feature being paired with a corresponding one of the at least one second feature; and
 - comparing each pair of corresponding first and second features to identify one or more difference therebetween;
 - comprising calculating the at least one metric in dependence on the one or more difference identified between each pair of corresponding first and second features;

wherein the first image comprises a first end systolic image and the second image comprises a second end diastolic image, the one or more difference identified between each pair of corresponding first and second features represents a cardiac cyclic change;

wherein the outcome data comprises diagnostic information and is associated with a corresponding set of data in the reference data set; and

wherein the diagnostic model is updated when new outcome data associated with a corresponding set of data in the reference data set becomes available, or when the outcome data associated with a corresponding set of data in the reference data set is updated.

11. A method as claimed in claim 10, wherein the outcome data is used to label the corresponding reference data sets.

12. A method as claimed in claim 11, wherein the label distinguishes between different classifications.

13. A method as claimed in any one of claims 10, 11 or 12, wherein the diagnostic information comprises a record of a cardiac event, such as a myocardial infarction.

14. A method as claimed in any one of claims 10 to 13, wherein the outcome data comprises a record of stenosis greater than a threshold value.

15. A method as claimed in any one of claims 10 to 14 comprising determining a weighting for at least some of the calculated metrics, each weighting being determined in dependence on the outcome data associated with a given one of the reference data sets.

16. A method as claimed in claim 15, wherein the diagnostic model is compiled in dependence on the calculated metrics and the associated weightings.

17. A method as claimed in any one of claims 10 to 16, wherein a machine learning algorithm is implemented to generate the diagnostic model.

18. A method as claimed in any one of claims 10 to 17 comprising adding further reference data sets incrementally, the method comprising analysing the further reference data sets; and updating the diagnostic model in dependence on the analysis of the further reference data sets.

19. A non-transitory computer-readable medium having a set of instructions stored therein which, when executed, cause a processor to perform the method claimed in any one of claims 10 to 18.