

CLAIMS

What is claimed is:

1. A system for identifying a defect in a component of an asset, the system comprising:
 - a processor;
 - a memory including instructions that, when executed by the processor, cause the processor to perform operations comprising:
 - fetching from an inspection system, a plurality of images acquired from an inspection of the component of the asset by the inspection system;
 - identifying, based on an image processing technique codified and included as part of the instructions, a subset of images from the plurality of images,
 - wherein the subset of images is representative of the defect in the component of the asset, and
 - wherein the image processing technique is selected from the group consisting of an auto-distress ranking technique, a structural similarity technique, a mean-subtracted filtering technique, and a Hessian norm computation technique,
 - wherein the operations further include providing a metric associated with the defect based on summarized information from a specified image from the subset of images, wherein the summarized information includes a Hamming norm.
2. The system of claim 1, wherein the operations further include fetching a CAD model of the component and rendering the specified image from the subset of images onto the CAD model.

3. The system of claim 2, wherein the operations further include fetching the CAD model from a database communicatively coupled to the system.
4. The system of claim 2, wherein the operations further include identifying one or more regions of the specified image representative of the defect.
5. The system of claim 1, wherein the asset is an engine.
6. The system of claim 1, wherein the inspection system includes a borescope inspection system.
7. The system of claim 1, wherein the operations further include extracting the plurality of images from a video.
8. The system of claim 1, wherein the plurality of images include several views of the component.
9. The system of claim 1, wherein the metric is independent of an absolute pixel value of a specified image from the subset of images.
10. The system of claim 1, wherein the operations further include providing a dataset including metrics generated from the subset of images based on the image processing technique.

11. The system of claim 10, wherein the operations further include training a neural network or a deep learning system based on the dataset.

12. The system of claim 11, wherein the operations further include providing another dataset based on a result of the training, the other dataset being representative of a predictive performance of the component.

13. A method for identifying a defect in a component of an asset, the method comprising:
fetching, by a defect-identification system, from an inspection system, a plurality of images acquired from an inspection of the component of the asset by the inspection system;

identifying, by the defect-identification system, based on an image processing technique, a subset of images from the plurality of images,

wherein the subset of images is representative of the defect in the component of the asset, and

wherein the image processing technique is selected from the group consisting of an auto-distress ranking technique, a structural similarity technique, a mean-subtracted filtering technique, and a Hessian norm computation technique,

wherein the method further includes providing a metric associated with the defect based on summarized information from a specified image of the subset of images, wherein the summarized information includes a Hamming norm.

14. The method of claim 13, further including fetching a CAD model of the component and rendering the specified image from the subset of images onto the CAD model.

15. The method of claim 14, further including fetching the CAD model from a database communicatively coupled to the system.

16. The method of claim 13, further including extracting the plurality of images from a video.