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(54) Title: SYSTEM AND METHOD OF OPERATION FOR REMOTELY OPERATED VEHICLES FOR AUTOMATIC DETECTION OF STRUCTURE INTEGRITY THREATS

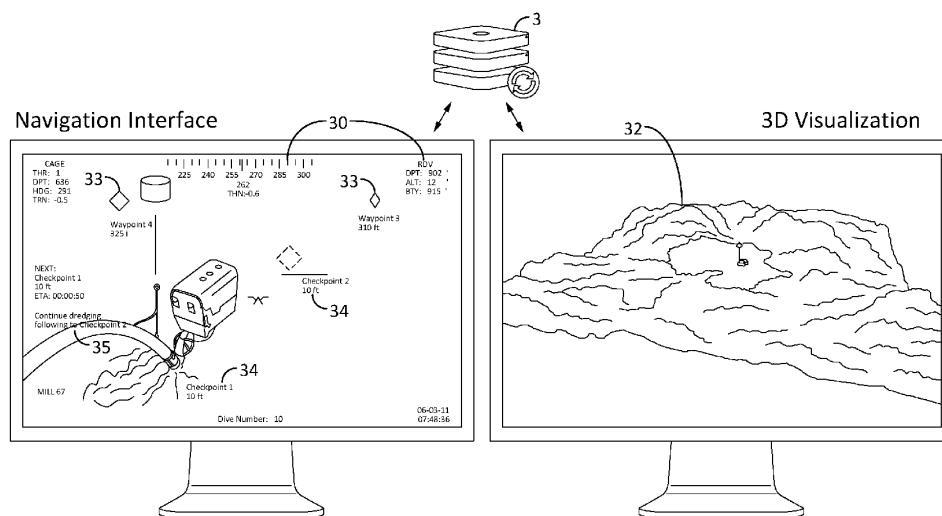


FIG. 6A

(57) Abstract: The present invention provides a system and method of automatic detection of structure integrity threats. A threat detection engine detects integrity threats in structures, such as underwater structures, and segments the structures in an image using convolutional neural networks ("CNN"). The threat detection engine may include a dataset module, a CNN training module, a segmentation map module, a semi-supervision module, and an efficiency module. The threat detection engine may train a deep learning model to detect anomalies in videos. To do so, a dataset module with videos may be used where the dataset module includes annotations detailing at what timestamps one or more anomalies are visible.

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