Case Study

Computer Vision AI
Intel® Geti™ Platform

Monitoring Construction Worker Safety with Custom Computer Vision AI Models

One promising approach to making construction sites safer is to use computer vision (CV) deep learning models to identify and respond to hazards. This approach has been limited by the conventional requirement for models to have access to many thousands of images to refine their accuracy. That's why it has been difficult or impossible for developers and solution providers to apply CV models to use cases where large image sets are unavailable. For example, images of earth-moving equipment used on construction sites have not been widely available to properly train computer vision AI models for a worker-safety application.

The Intel® Geti™ platform is a new AI technology that can train CV models to accurately identify specific heavy equipment starting with as few as 20 to 30 images and an active training approach. Active learning involves keeping the human experts in the loop as the model learns and becomes better. After uploading the small training set, a human operator identifies and labels the target piece of equipment in several images proposed by the Intel Geti platform. The platform creates an initial model and then begins making inferences based on it. The human operator responds by confirming or correcting those inferences as well as selecting and labeling more image targets. The model rapidly increases in accuracy and supports export for deployment in the native framework or as an optimized model for OpenVINO™ toolkit.

Sensing Feeling, a solution provider based in the UK, is working on developing custom AI models of heavy equipment with the Intel Geti platform to increase workers' safety. The Sensing Feeling smart visual sensing platform provides edge-based analytics using the machine vision AI models built with Intel Geti platform. The occupational-safety solution monitors the safety zones surrounding heavy equipment to identify unsafe proximity by personnel. Because the analysis is performed at the network edge, the solution can quickly generate alerts to the worker, the equipment operator, and the site safety coordinator.

Learn more about the Intel® Geti™ platform at

geti.intel.com and Sensing Feeling at sensingfeeling.io

Solution provided by:

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