AI-Driven Segmentation network for Smoke Identification using Cloud Computing

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Abstract:

This paper proposes the use of instance segmentation networks for smoke and fire identification technology, aiming to automatically identify the dense smoke and flames generated by industrial incinerators. By setting up fast balls equipped with 4G signals and industrial-grade encrypted transmission devices in industrial areas, images are transmitted back to servers in real-time cloud computing. These images are then input into instance segmentation networks for recognition. The technology needs to classify four categories: chimneys, industrial incinerators, smoke,. When smoke is detected simultaneously with chimneys or industrial incinerators, the smoke or fire object must be above the chimney or industrial incinerator object, and the distance between the two objects must be less than 50 pixels for the action of the chimney or industrial incinerator to be considered. The image is then recorded.

Keywords:

Instance segmentation, smoke, fire, Waste gas combustion tower.