Sentence Directed Video Object Codetection

A novel video object codetection method uses audio and visual cues to interpret and detect objects faster and more accurately without the need for pre-learning.

Video object detection is a broad field with many applications ranging from self-driving cars to security surveillance. Video object codetection normally requires the pre-learning of objects before they can be detected. Pre-learning is a problem with many applications given it is not possible to pre-learn all potential scenarios. In addition, most of the work in object detection focuses on still images, which is simpler than the changing and moving viewpoints found in videos.

Researchers at Purdue University have developed a new method of video object codetection using the audio and visual cues in the video to help interpret and detect objects. This technology allows for video object detection without the need for object pre-learning. Using an algorithm that first generates sentences that describe an object's appearance/movement in the video by comparing subtle differences against a static background, it produces and displays a bounding box around an object while it is present in the video field. Using this technology, object detection is more robust, allowing for the detection of more objects, faster, and more accurately than ever before.

Advantages:

-Objects do not need to be pre-learned

-Increased accuracy

-Detects nearly any sized object

-Detects multiple objects simultaneously

-Works with fast object movement and motion blur

Potential Applications:

-Surveillance

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Category
Artificial Intelligence & Machine Learning/Computer Vision & Image Recognition

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Intellectual Property:

Provisional-Patent, 2016-06-06, United States | PCT-Patent, 2017-06-06, United States | PCT-Patent, 2017-06-06, WO | NATL-Patent, 2018-12-31, European Patent | NATL-Patent, 2019-02-04, United States | CON-Gov. Funding, 2020-12-29, United States

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