

## Extended Keyframe Detection with Stable Tracking for Multiple 3D Object Tracking

PrePrint

ISSN: 1077-2626

Youngmin Park, GIST, Gwangju

Vincent Lepetit, EPFL, Lausanne

Woontack Woo, GIST, Gwangju

### This Article

- [Subscribers, please Login](#)
- [Purchase article: \\$19](#)
- [PDF](#)
- [RSS feed](#)

### Share

- [Email this Article to a friend](#)

### Bibliographic References

- [ASCII Text](#)
- [BibTex](#)
- [RefWorks Procite/RefMan](#)

### Add to:



### Search

- [Similar Articles](#)
- [Articles by Youngmin Park](#)
- [Articles by Vincent Lepetit](#)
- [Articles by Woontack Woo](#)

100% Free With This Tool.  
[www2.smartbear.com/Free...](http://www2.smartbear.com/Free...)

### Test cases to go

20 test factors with 10 values each 181 pairwise cases in 7 seconds  
[www.Testcover.com](http://www.Testcover.com)

### Aquarium 3D screensaver

that will show the real power of your PC. Free download!  
[www.oceandive.com](http://www.oceandive.com)

### Tgi3D plugins

Create free form, organic surfaces and realistic 3D models from photos  
[www.tgi3d.com](http://www.tgi3d.com)

### Journals Call for Papers

Research in Economics, Finance  
 Scholarly journals from Canada  
[www.sciedu.ca/rwe](http://www.sciedu.ca/rwe)

DOI Bookmark: <http://doi.ieeecomputersociety.org/10.1109/TVCG.2010.262>

## ABSTRACT

We present a method that is able to track several 3D objects simultaneously, robustly, and accurately in real-time. While many applications need to consider more than one object in practice, the existing methods for single object tracking do not scale well with the number of objects, and a proper way to deal with several objects is required. Our method combines object detection and tracking: Frame-to-frame tracking is less computationally demanding but is prone to fail, while detection is more robust but slower. We show how to combine them to take the advantages of the two approaches, and demonstrate our method on several real sequences.

## ADDITIONAL INFORMATION

### Index Terms:

Motion, Tracking, Computer vision, augmented reality

### Citation:

Youngmin Park, Vincent Lepetit, Woontack Woo, "Extended Keyframe Detection with Stable Tracking for Multiple 3D Object Tracking," *IEEE Transactions on Visualization and Computer Graphics*, 09 Dec. 2010. IEEE computer Society Digital Library. IEEE Computer Society, <<http://doi.ieeecomputersociety.org/10.1109/TVCG.2010.262>>

[Peer Review Notice](#) | [Give Us Feedback](#)

Usage of this product signifies your acceptance of the [Terms of Use](#).