5th International Workshop on Recovering 6D Object Pose (R6D)

ICCV 2019, October 28, Seoul, Korea

Tomáš Hodaň, Rigas Kouskouridas, Tae-Kyun Kim, Jiří Matas, Carsten Rother, Vincent Lepetit, Ales Leonardis, Krzysztof Walas, Carsten Steger, Eric Brachmann, Bertram Drost, Juil Sock
Covered topics

● **6D object pose estimation (aka 3D object detection)**
  ○ Robustness to occlusion and background clutter
  ○ Detection of multiple object instances
  ○ Effective synthesis of training data
  ○ Pose estimation of non-rigid objects and object categories
  ○ ...

● 6D object tracking

● 3D object modeling and reconstruction

● Robotic manipulation and interaction

● ...

History

ICCV 2015, Santiago

ECCV 2016, Amsterdam

ICCV 2017, Venice

ECCV 2018, Munich
Workshop papers

7/12 accepted papers, 3 extended abstracts

2015: 12 extended abstracts
2016: 9/11 accepted papers, 3 extended abstracts
2017: 9/14 accepted papers, 6 extended abstracts
2018: 10/13 accepted papers, 3 extended abstracts

33 reviewers, 2-4 reviews per paper

Accepted papers presented as orals and posters

Extended abstracts presented as posters

18 posters invited from the main conference
Accepted workshop papers

**CullNet: Calibrated and Pose Aware Confidence Scores for Object Pose Estimation**, Kartik Gupta, Lars Petersson, Richard Hartley

**CorNet: Generic 3D Corners for 6D Pose Estimation of New Objects without Retraining**, Giorgia Pitteri, Vincent Lepetit, Slobodan Ilic

**Unsupervised Joint 3D Object Model Learning and 6D Pose Estimation for Depth-Based Instance Segmentation**, Yuanwei Wu, Tim K Marks, Anoop Cherian, Siheng Chen, Chen Feng, Guanghui Wang, Alan Sullivan

**An Annotation Saved is an Annotation Earned: Using Fully Synthetic Training for Object Detection**, Stefan Hinterstoisser, Olivier Pauly, Hauke Heibel, Martina Marek, Martin Bokeloh

**HomebrewedDB: RGB-D Dataset for 6D Pose Estimation of 3D Objects**, Roman Kaskman, Sergey Zakharov, Ivan Shugurov, Slobodan Ilic

**A Refined 3D Pose Dataset for Fine-Grained Object Categories**, Yaming Wang, Yi Yang

**Satellite Pose Estimation with Deep Landmark Regression and Nonlinear Pose Refinement**, Bo Chen, Jiewei Cao, Alvaro Parra, Tat-Jun Chin
BOP Challenge 2019

The goal of BOP (Benchmark for 6D Object Pose Estimation):
To capture the state of the art in estimating the 6D object pose in RGB/RGB-D images.

Since ECCV’18 paper:
1. New online evaluation system at: https://bop.felk.cvut.cz
2. New task and evaluation metrics.
3. More datasets (MVTec ITODD, HomebrewedDB, YCB-Video).
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More details at 17:00!
Online traffic

10K visits (5.1K users) of the workshop websites since ECCV’18.

4.3K visits (1.4K users) of the BOP Challenge 2019 website.

227 members in the BOP Google Group:
https://groups.google.com/forum/#!forum/bop-benchmark
Workshop program (cmp.felk.cvut.cz/sixd/workshop_2019)

13:30  opening
13:40  invited talk 1: Slobodan Ilic, Domain Adaptation for 6D Object Pose Recovery from Synthetic Data
14:10  invited talk 2: Eric Brachmann, Robust Pose Optimization Made Differentiable
14:40  oral presentations of workshop papers
15:30  coffee break
16:00  invited talk 3: Vincent Lepetit, 3D Pose Estimation and 3D Model Retrieval for Objects in the Wild
16:30  invited talk 4: Matthias Nießner, 9DOF Scan2CAD Alignment in 3D Scans
17:00  results of the BOP Challenge 2019
17:20  awards, discussion, closing
17:30  poster session - stands 56 - 85 (workshop papers, extended abstracts, invited posters)