

PRESS RELEASE

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Tolga Birdal receives EMVA Young Professional Award 2016

Edinburgh/Barcelona, 11 June, 2016. The EMVA Young Professional Award 2016 goes to Mr. Tolga Birdal, for his work “Reconstruction via Detection: Efficient and Automatic Reconstruction from Unorganized 3D Scans”. Birdal, age 33, holds a Master degree in Computational Science and Engineering and is currently PhD candidate at the Computer Vision Group at the Chair for Computer Aided Medical Procedures, Technical University of Munich and Research Scientist at Siemens AG.

Reconstruction-via-detection framework

The awarded work proposes reconstruction-via-detection framework, a new and effective approach to 3D digitization from a limited number of unordered and unstructured 3D point clouds. In contrast to state-of-the-art systems, which try to stitch a bunch of scenes together in a blind manner, this method cleverly integrates the CAD model, available in a wide range of industrial applications, directly into the reconstruction pipeline. With the help of this prior model, many existing problems are re-addressed and advanced: Matching, segmentation, hypotheses rejection and global refinement. The result is an occlusion and clutter aware, robust and flexible 3D reconstruction system, which could operate online within a couple of seconds and provide live user feedback along with the automatic object

segmentation. Thanks to this elaborate framework, the final system doesn't require manual intervention other than acquiring the 3D data.

The developed method doesn't use approximations such as voxelization or smoothing and thus retains the accuracy of the 3D sensor in the final result. This way, very large objects can be efficiently scanned with only a handful of shots. All these technological advancements are fused into an application, where steam turbine casings and ventilators are digitized and inspected using laser scanners. The inspection results are evaluated using photogrammetry systems and (sub)millimeter-level accuracy is demonstrated.

Young professional award part of EMVA Business Conference

The EMVA Young Professional Award is an annual award to honor the outstanding and innovative work of a student or a young professional in the field of machine vision or image processing. It is the goal of the European Machine Vision Association EMVA to further support innovation in the machine vision industry, to contribute to the important aspect of dedicated machine vision education and to provide a bridge between research and industry. With the annual Young Professional Award the EMVA intends to specifically encourage students to focus on challenges in the field of machine vision and to apply latest research results and findings in computer vision to the practical needs of the industry. The awardee was announced on June 11 during the 14th EMVA Business Conference in Edinburgh/Scotland, where he also had the opportunity to present his work as part of the regular conference program.

The 15th EMVA Business Conference will take place from 22 – 24 June 2017 in Prague/Czech Republic.

Picture source: EMVA

About EMVA:



Founded in May 2003 in Barcelona, the European Machine Vision Association currently has about 100+ members representing more than 20 nations. Its aim is to promote the development and use of machine vision technology and to support the interests of its members - machine vision companies, research institutions and national machine vision associations. The main fields of work of EMVA are: standardization, statistics, the annual EMVA Business Conference and other networking events, European research funding, public relations and marketing. To find out more visit the web site www.emva.org.