Call for Contributions

Submission:
1. Inform the Chair: with the Title of your Contribution
2. Submission URL:
https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=ICAS+2018+Special
Please select Track Preference as **AR3DP**

Special track

AR3DP: Autonomous Robot 3D Part Interaction Systems

Chair and Coordinator
Dr. Faisal Azhar, HP Inc. UK, LTD., UK
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along with

ICAS 2018, The Fourteenth International Conference on Autonomic and Autonomous Systems
May 20, 2018 to May 24, 2018 - Nice, France
http://www.iaria.org/conferences2018/ICAS18.html

The 3D printing industry is developing rapidly and many early adopters are producing functional 3D parts. The 3D scanning technology is often used to obtain a surface scan of the 3D part in order to understand whether the printed parts meet the specified design CAD model. The main challenge is to have an autonomous system, such as a robot, paired with a vision system that is able to detect/recognize printed 3D parts and estimate the current pose (position and orientation) of the 3D parts relative to the designed CAD model in order to facilitate robot-3D part interaction.

As opposed to academic objects, e.g., Stanford bunny, functional 3D parts create considerable challenge to vision systems due to symmetry, ambiguity of the partial scan data from different viewpoints and lack of texture variation. In addition, the robotic systems should have collision avoidance mechanisms. Enabling, this interaction will allow to automatically performing tasks such as quality inspection, cleaning of printed parts, authentications, etc.

Prospective authors are invited to submit original papers on topics including, but not limited to:

- Autonomous systems to facilitate 3D object/part interaction, e.g., robot-part interaction. Functional parts are of particular interest
- Robot vision systems for 3D object/part pose estimation
- Classical and deep learning based 3D part recognition
- High resolution surface scans or reconstruction of 3D parts
- Robot-Vision calibration and coordinate space mapping

Important Datelines

- Inform the Chairs: As soon as you decided to contribute
- Submission: ~~February 7, 2018~~ March 28, 2018
- Notification: ~~March 7, 2018~~ April 5, 2018
- Registration: ~~March 21, 2018~~ April 10, 2018

- Camera ready: ~~April 2, 2018~~ April 20, 2018

Contribution Types
- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on www.iaria.org]
- Presentations: slide only [slide-deck posted on www.iaria.org]
- Demos: two pages [posted on www.iaria.org]

Paper Format
- See: http://www.iaria.org/format.html
- Before submission, please check and comply with the editorial rules: http://www.iaria.org/editorialrules.html

Publications
- Extended versions of selected papers will be published in IARIA Journals: http://www.iariajournals.org
- Print proceedings will be available via Curran Associates, Inc.: http://www.proceedings.com/9769.html
- Articles will be archived in the free access ThinkMind Digital Library: http://www.thinkmind.org

Paper Submission
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Registration
- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at http://www.iaria.org/registration.html

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