情報科学フロンティア研究院 特別講演会

名古屋工業大学　情報科学フロンティア研究院
グローバル共生情報研究センター

日時：2016 年 6 月 16 日（木） 13:30 ～ 14:30
会場：名古屋工業大学 4 号館 2 階会議室 3
対象：大学生・教員をはじめ興味のある方々（公開講演）

3D motion tracking and action recognition for man-machine communication

Human activity recognition is an important and challenging topic of computer vision and pattern recognition research. The goal of the activity recognition is an automated analysis (or interpretation) of ongoing events and their context from sequence of images. Its applications include surveillance systems, and a variety of systems that concern interactions between persons and electronic devices such as human-computer interfaces. The development of a fully automated human activity recognition system, capable of classifying person's activities with low error, is a challenging task due to problems, such as background clutter, occlusions, changes in viewpoint, scale, and lighting and appearance. Modeling 3D data is a new trend in activity recognition. As the human body consists of limbs connected by joints, one can model these parts using stronger features, which are obtained from multiple cameras or depth cameras, and then create a 3D representation of the human body, which is more informative in comparison to analysis of 2D activities in the image plane.
This talk will be focused on presentation of the basic ideas, as well as recent achievements, in the domain of 3D data analysis and recognition. We will present a systematic overview of different action recognition techniques with special stress on methods relying on 3D motion analysis and data representation, as well as pattern recognition using single depth sensor, multiple cameras and body-worn accelerometers. A brief overview of other related research activities in the presenter's laboratory is also provided. Last but not least, practical aspects, as well as implementation issues, related to 3D data processing in real-time will be presented.

AGH

Associate Prof. Dr. Habil.
Bogdan Kwolek
AGH University of Science and Technology

The speaker is an associate professor of Computer Science Department at AGH University of Science and Technology in Krakow, currently serving as a visiting professor to the Nagoya Institute of Technology. Bogdan Kwolek received his Ph.D. from AGH University with a thesis on trajectory planning and stabilizing using visual feedback, and his D.Sc. from the Silesian University of Technology with a thesis on adaptive real-time image processing for cognitive vision systems. He was awarded DAAD Scholarships to Bielefeld University and Technische Universität München, a scholarship from the French government to INRIA, an EEA scholarship to University of Stavanger and University of Oslo, and a scholarship from Polish Government to Stanford University. He has served as expert for European Commission since FP6 and FP7. His research interests include computer vision, pattern recognition, as well as machine learning. Dr. Kwolek is a member of the IEEE and IAPR. His website is http://home.agh.edu.pl/~bkw.

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