

## A Holistic View of Robot Vision

(机器人视觉的回顾与展望)

### Speaker:

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### Description:

We are living in the ocean of signals. And, there are two major types of signals which are particularly important to the intelligence of both human beings and robots. One of them is the visual signal. And, the other one is the audio signal. Therefore, the study of visual signals and its applications to the perception of scenes or objects is an important topic in robotics as well as artificial intelligence. In this seminar, I will make the attempt of re-organizing the contents of robot vision into the following categories such as measurement-centric vision, reconstruction-centric vision, model-based vision, behaviour-centric vision, and cognitive vision. And, on the basis of the above categorization, I will outline the past achievements of robot vision and future trends faced by today's vision research.

### Biodata of Speaker:



Xie Ming received the B.Eng degree in control and automation engineering. Subsequently, as a recipient of the overseas scholarship from Chinese government, he has completed the study for Master degree in the University of Valenciennes (France) as well as the research for PhD degree in the University of Rennes (France). He is Associate Professor of Nanyang Technological University, and was a Fellow with Singapore-MIT Alliance (SMA). He was the General Chair of 2007 International Conference on Climbing and Walking Robots (CLAWAR), the General Chair of 2009 International Conference on Intelligent Robotics and Applications (ICIRA), the Co-founder of the International Journal of Humanoid Robotics (SCI/SCIE indexed), Co-founder of Singapore-China Association for Advancement of Science and Technology, Co-founder of Robotics Society of Singapore. He has taught the courses such as Robotics,

Artificial Intelligence, Applied Machine Vision, Measurement and Sensing Systems, Microprocessor Systems, and University Physics. In terms of scientific research, he has published two books, two edited books, several book chapters, over 10 patents of invention, over 30 research papers in scientific journals and over 100 research papers in international conferences. He was the recipient of one best conference paper award from World Automation Congress, the recipient of one best conference paper award from CLAWAR, the recipient of one outstanding paper award from International Journal of Industrial Robot, the recipient of one Gold Prize (S\$8K) from CrayQuest, the recipient of one Grand Champion Prize (S\$15K) from CrayQuest, the recipient of one A-Star's Best Research Idea Prize (S\$5K), the recipient of one Silver Medal from Dragon Design Foundation.