

# IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM2018)

Invited session on

## ***Intelligent Manufacturing and Automation in Machine Vision Systems***

In the area of industry and automation, machine vision has played an important role in constructing automated systems. For example, inspection tasks in industrial process lines, the applications of automated systems, and object tracking during processes. The systems perform better when they are introduced with machine vision techniques. Recently, with the fast progression of artificial intelligence, more advanced algorithms are dedicated to machine vision area. Nevertheless, the real scenarios are different from the pure scenarios where we build our algorithms. In addition, the domain of datasets in manufacturing and automation are further different from the existing open-source datasets. More works still need to be done to fill the gaps between indoor experiments and real-world implementations, as well as the differences across the domain of datasets. How to apply artificial intelligence algorithms on manufacturing and automated systems requires frontier ideas and various techniques. Therefore, this session would like to invite experts all around the world and overview the successful cases of applying artificial intelligence algorithms on machine vision systems, especially in intelligent manufacturing and automation. Through this session, many organizations would benefit from the presentations of various AI applications.

### **Potential topics include but are not limited to the following:**

- Machine vision for automation and robotic systems
- Object tracking in manufacturing
- Design of intelligent mechatronics
- Intelligent frameworks in industrial applications
- Anomaly detection in industrial applications
- Automated optical inspection
- Artificial intelligence in automated optical inspection
- Smart manufacturing and inspection systems

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