

# Call for papers:

## Machine Vision and Applications Journal Special Issue on Advanced Machine Vision

The organizing committee of the 1st International Workshop on **Advanced Machine Vision** for Real-life and Industrially Relevant Applications (**AMV2018**), which took place at **ACCV2018** in Perth, Australia, is happy to announce a **Special Issue on Advanced Machine Vision** of the *Machine Vision and Applications Journal* by Springer (<https://link.springer.com/journal/138>).

A large variety of industrially oriented applications (e.g. quality control, pick and place) have in the past decades been successfully implemented throughout a wide range of industries. These implementations are characterized by very controlled surroundings and objects (e.g. CAD models of objects available, controlled lighting). **Advanced Machine Vision** refers to computer vision-based systems where such assumptions do not hold, for example, when handling biological objects as seen in the food-production industry or when operating outdoors. With recent advancements in sensing and processing power, the potential for further automation in industry based on computer vision is clearly present. Furthermore, the exploding domain of computer vision algorithms (e.g. deep learning) provides dozens of new opportunities. The field of **Advanced Machine Vision** clearly raises the need of applied research that focuses on the technology transfer from academics towards practitioners, yielding several challenges like top-notch accuracies, real-time processing, minimal training data, minimal manual input, user-friendly interfaces, ...

To this end we welcome high quality contributions (full papers) with a strong focus on (but not limited to) the following topics within Advanced Machine Vision:

- Sensing (camera selection, camera setup, different wavelengths, multi-modal data, ...)
- Improving robustness of algorithms (real-time performance, non-controlled illumination, non-trivial intra- object variability, top-notch accuracies, ...)
- Removing or reducing the need of training data (data augmentation, artificial data, ...)
- Processing power and memory requirements
- Obtaining training data and ground truth annotations
- Lab testing versus inline testing
- Transfer learning towards new applicational domains
- Deep learning for advanced machine vision
- Quality assessment of non-trivial objects
- Real-life and industrially relevant applications

Important dates:

- Paper submissions open: April 1st, 2019
- Paper submissions deadline: May 31st, 2019
- Reviews available: August 31st, 2019
- Deadline for revisions: October 15th, 2019
- Final decision: December 20th, 2019

Submissions through: <https://www.springer.com/138>

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