

## The Twelfth IEEE Embedded Vision Workshop

July 1st, 2016  
Las Vegas, NV

Held in conjunction with IEEE CVPR 2016.  
<http://cvisioncentral.com/evw2016/>



### Call for Papers

Embedded Vision is what makes Computer Vision mainstream today, as it brings together embedded systems with vision functionalities. Due to the emergence of powerful yet low-cost and energy-efficient processors, it has become possible to incorporate vision capabilities into a wide range of embedded systems, including video search and annotation, surveillance, gesture recognition in video games, driver assist systems in automotive safety, and autonomous robots such as drones. The IEEE Embedded Vision Workshop (EVW) brings together researchers working on vision problems that share embedded system characteristics.

### Important Dates

Paper submission: March 9, 2016

Notification to the authors: April 20, 2016

Camera ready paper: April 27, 2016

Paper submission website: <https://cmt3.research.microsoft.com/EVW2016>

This year, we strongly encourage submissions on robotic systems and applications. Research papers are solicited in, but not limited to, the following topics:

- Deep learning hardware and software architectures for visual exploitation
- Analysis of vision problems specific to embedded systems
- Analysis of embedded systems issues specific to computer vision
- Large scale computer vision problems including object recognition, scene analysis, visual, industrial and medical applications
- Embedded vision for robotics (industrial, mobile, and consumer)
- Embedded vision for Unmanned Ground and Air Vehicles, including consumer drones
- Embedded visual navigation (mapping, localization, VSLAM, VO)
- New trends in programmable processors for vision and computational imaging
- Applications of and algorithms for embedded vision on:

- Massively parallel platforms such as GPUs (PC, embedded and mobile)
- Programmable platforms such as DSPs and multicore SoCs
- Reconfigurable platforms such as FPGAs and SoCs with reconfigurable logic
- Mobile devices, including smartphones and tablets
- Vision-based client devices for the Internet of Things (IoT)
- Embedded vision for 3D movies and TV
- Biologically-inspired vision and embedded systems
- Computer vision applications distributed between embedded devices and servers
- Social networking embedded computer vision applications
- Educational methods for embedded vision
- User interface designs and CAD tools for embedded vision applications
- Hardware enhancements (lens, imager, processor) that impact vision applications
- Software enhancements (OS, middleware, vision libraries, development tools) that impact embedded vision application
- Methods for standardization and measurement of vision functionalities
- Performance metrics for evaluating embedded systems
- Hybrid embedded systems combining vision and other sensor modalities

## **Demo Session**

This year, EVW will have live demonstrations of embedded vision prototypes and solutions. During this session, authors, engineers, and researchers can showcase their prototypes with real-time implementations of vision systems on embedded computing platforms. Authors of selected papers (both oral and poster) will be invited to demonstrate their works. Additionally, we also invite abstracts independent of the paper submissions to present your demonstrations during the workshop. Selected abstracts will be given an opportunity to demonstrate their solutions during the workshop.

## **Special Journal Issue on Embedded Computer Vision**

All of the previous Workshops on Embedded (Computer) Vision (ECVW and EVW) were held in conjunction with CVPR, with the exception of the fifth, which was held in conjunction with ICCV 2009. These events were very successful, and selected workshop papers have been published in two special issues of major journals (EURASIP Journal on Embedded Systems and CVIU) and in two Springer monographs titled Embedded Computer Vision.

This year, there will be a *Special Journal Issue on Embedded Computer Vision within Springer's Journal of Signal Processing Systems*. Authors of selected papers will be invited to submit extended versions of their workshop papers for publication in the special issue.

Special Journal Issue deadline: July 29, 2016

## **Organizing Committee**

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