This is the first algorithm competition at the ACM International Workshop on Video Surveillance & Sensor Networks (VSSN), and we are all very excited about it. We hope that over the years the submitted algorithms on well-defined surveillance aspects will become a valuable resource for the computer surveillance research community fostering and accelerating the progress in research and commercial systems.

This algorithm competition is unique in that all participating algorithms

- are submitted in source code complying to a minimal, but also very general C/C++ API based on the Open Source Computer Vision Library (OpenCV, http://sourceforge.net/projects/opencvlibrary),
- are applied and evaluated on the same public data sets, and
- use a performance evaluation metric available in C/C++ source code.

Together with the provided training and test set the source code enables the evaluation of the differences between the various algorithms on the selected well-defined surveillance aspects. As the test sets and performance metrics will likely change over time based on the submitted suggestions and discussions at the workshop, having algorithms available in source code will make it possible to re-run the tests. Researchers will have the opportunity to include their source code into updates and future releases of OpenCV.

This year’s algorithm competition is on the segmentation of foreground objects. Object segmentation -- especially of moving objects -- in image sequences is a core aspect in many computer vision and especially video surveillance systems. Commonly a foreground/background segmentation algorithm will provide at every time instance (after maybe some initial training) an estimate of the background image as well as a probability foreground mask. The foreground mask specifies for each pixel its probability of belonging to a foreground object. There exists already a wide variety of algorithms for foreground/background segmentation. However, they are still difficult to compare since (a) implementations are not available in source code and (b) the algorithms have been tested on different datasets under widely varying conditions. Results reported in the literature do not provide a direct comparison among algorithms because each researcher reports results using different assumptions, evaluation methods and test sequences.

We hope that through this competition the community learns in an open manner of the important technical problems as well as measures the progress of the community toward solving these problems. We are confident that the competition will be a valuable opportunity to share ideas with other researchers and practitioners from institutions around the world.