Second Workshop on Analysis of Aerial Motion Imagery WAAMI 2021

Organized in conjunction with ICCV 2021

Montreal, Canada October 11-17, 2021 (WILL BE HELD ONLINE)

http://iccv2021.thecvf.com

Aims and scope:

In recent years, there has been an exponential increase in aerial motion imagery due to advances in airborne sensor technologies, rising adoption of manned and unmanned aerial vehicles (UAVs), and emergence of new applications associated with these technologies including aerial surveillance, traffic monitoring, search and rescue, disaster relief, and precision agriculture. We are witnessing a growing need for robust aerial image and video analysis capabilities to take full advantage of this data and to address the pressing needs of its applications. Novel methods, particularly those relying on artificial intelligence/machine learning (AI/ML) approaches, coupled with rapid advances in computational hardware (more powerful, lighter weight, lower energy, lower cost computing platforms) are revolutionizing the image processing, pattern recognition, and computer vision fields.

The aim of this workshop is to solicit papers from academia, government, and industry researchers with original and innovative works on all aspects of analysis of aerial motion imagery to address the needs in a diverse set of application areas. Of particular interest to this workshop is analysis of aerial wide area motion imagery (WAMI) that is characterized by very large (few square miles) ground coverage. WAMI enables large scale surveillance and monitoring for extended periods of time, but suffers from unique challenges such as hundreds to thousands of moving objects per frame, small object sizes, parallax, and lower frame rates.

Topics of interest include but are not limited to:

Methods/Approaches
- Robust feature detection and matching
- Aerial video stabilization
- Object detection and/or recognition in aerial videos
- Multi-object tracking
- Multi-view object tracking
- Persistent single object tracking
- 3D-enabled object tracking
- Landmark detection and recognition for navigation
- Structure-From-Motion
- Aerial 3D reconstruction

Focus Areas
- Applications of computer vision for aerial platforms
- Scene understanding and video summarization
- Embedded video processing for aerial systems
- Multi-sensor data fusion for aerial systems
- Deep learning for aerial image analysis
- Video compression for aerial motion imagery
- Synthetic scene generation for aerial applications
- Autonomous navigation
- Multi-UAV swarm coordination and sensing
- Coordination of airborne camera systems
- Mission planning for airborne data collection
- Image fusion applied to airborne and ground-based camera systems
- Fusion of open-source geospatial data and airborne imagery

Applications
- Environmental or urban planning
- Agriculture
- Disaster relief
- Surveillance and monitoring

Organizing Committee:
- Kannappan Palaniappan, University of Missouri (USA)
- Filiz Bunyak, University of Missouri (USA)
- Marc-Antoine Drouin, National Research Council (Canada)
- Priya Narayanan, Army Research Laboratory (USA)

Program Committee:
- Hadi Aliakbarpour, University of Missouri (USA)
- Sanjeev Agarwal, USARMY CCDC C5ISR (USA)
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- Walter Scheirer, University of Notre Dame (USA)
- Guna Seetharaman, Naval Research Laboratory (USA)
- Omar Tahri, University of Burgundy (France)
- Rui Wang, Facebook
- Zhangyang (Atlas) Wang, University Texas at Austin

Important Dates:
- Paper submission deadline : July 10th, 2021
- Author notification   : August 1st, 2021
- Camera-ready submission   : August 17th, 2021

Website: https://waami.github.io/

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