Special Track: **Innovations in Computer Vision & Machine Learning for Critical & Civil Infrastructures**

18th International Symposium on Visual Computing
Lake Tahoe, NV, USA
October 16-18, 2023
https://www.isvc.net/

Scope

Critical infrastructures are among the cornerstones that support modern daily living through the variety of essential services offered to their end-users. Water and gas utility networks, transportation networks (e.g., highways, road maintenance, airports, rail stations), communication networks, and the smart electric power grid are prominent cases of critical infrastructures, the reliable operation, security, and resilience of vital of which, underpin the functioning of a nation or region.

In addition, inspection and maintenance of civil infrastructures are of key importance such as cultural heritage sites, historic city blocks and monuments. The impact of climate change on these infrastructures and the design of new intervention actions to resist these infrastructures from environmental threats is a hot research topics nowadays.

Among the many reasons that mandate the monitoring of such infrastructures are:

1. Ensuring continuity of essential services
2. Detecting and preventing failures
3. Facilitating resource allocation
4. Complying with regulations
5. Supporting decision making
6. New design methods to compensate climate change impact

The rapid advancements in heterogeneous sensor development, sensor data acquisition, transmission and processing, and the Internet of Things, have created new possibilities for growth within critical infrastructures. By integrating computer vision and machine learning technologies into critical infrastructure monitoring

systems, organizations can improve the accuracy, efficiency, and effectiveness of their monitoring efforts, enhancing the overall security, reliability, and resilience of these essential assets and services. By analyzing images or video feeds, computer vision can help track and manage inventory, equipment, and assets across various critical infrastructure facilities, identify damage and vulnerable areas, prioritize response efforts and assess the efficiency and performance of various infrastructure systems and assets.

This special track will feature key innovations in artificial intelligence, machine learning, signal and information processing put forward to advancing the design, analysis, optimization, operation and protection of critical infrastructures.

Topics

Topics of interest include but are not limited to:

- Visual inspection and maintenance
- Anomaly detection
- Safety and security monitoring
- Asset management and inventory tracking
- Disaster monitoring and response
- Traffic and transportation monitoring
- Environmental monitoring
- Performance monitoring and optimization
- Cultural heritage monuments/buildings inspection, maintenance, monitoring

Organizers

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Important Dates

Same as ISVC deadlines, see http://www.isvc.net/

Paper Submission Instructions

Same as ISVC paper submission instructions, see http://www.isvc.net/index.php/paper-submission/