



Special Session on **COMPUTER VISION AND COGNITIVE DECISION-MAKING FOR INFRASTRUCTURE RESILIENCE**



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The session aims to connect experts in engineering domains to those in Computer Vision and Machine Learning for a common goal: mitigation of the impact of extreme natural events (natural disasters, climate change) on infrastructure. The emerging climate crisis has placed investments in infrastructure resilience at the forefront of the economic bill of global leaders. Systems providing early warnings before a disaster happens will save lives, property and costs. However, such systems are not yet available, leaving no time for effective decision-making in the face of natural disasters.

At the core of infrastructure resilience are Digital Twins, which play a pivotal role in maintaining, restoring and improving infrastructure systems. Given the advances in Artificial Intelligence (AI) and Big Data analytics, state-of-the-art methods and tools have the potential to generate AI-enhanced Digital Twins (AI-Twins). Using sensing technologies like laser scanning, embedded sensors and IoT, AI-Twins can accurately map the up-to-date state and condition of the physical asset, allowing better-informed decision-making processes at the time of need.

Topics of the session include applications of AI (computer vision, deep learning, augmented reality) in the following areas:

- infrastructure monitoring (laser scanning, unmanned aerial vehicles, satellites) and assessment (infrastructure deterioration and damage)
- generation of Digital Twins of infrastructure (transportation systems, industrial systems, power generation and transmission systems)
- cognitive decision-making before and after extreme natural events
- risk quantification for disaster management (rehabilitation and reconstruction after disasters)

Please feel free to contact the session organizer for more information regarding the Special Session.

Abstract Submission Deadline : 15 January 2022

Contributions to the Special Session should only be submitted online at <https://iconhic.com/2021/authors-area/#submissions>. When filling the form don't forget to select the name of the Special Session in the dropdown menu 'Abstract Topic'.

For more details:



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