remote sensing

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3D Reconstruction and Visualization of Dynamic Object/Scenes Using Data Fusion

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Message from the Guest Editors

For an in-depth analysis and understanding of the contextual environment, knowledge of the 3D structure of a scene provides valuable information. 3D virtual reconstruction involves the geometric structure of a scene captured by a collection of images by facilitating the position of the camera and the internal parameters. The technology of data fusion-based 3D reconstructing using 3D sensors such as RGB-D Camera, Lidar, and Radar have been used in various applications such as autonomous things, robotics, remote sensing, or VR/AR. In particular, deep learning methods for multi-modal 3D data fusion using only images or heterogamous sensor data such as images and point clouds are actively used for 3D reconstruction in research and industry. Complexity, occlusions, variety of structures, and inaccessible locations are serious issues that will affect the capture of all the geometric details of 3D structures. This Special Issue focuses on finding robust methods to use in uncontrolled environments using 3D scene modeling, autonomous exploration of unknown scenes, autonomous obstacle avoidance system, etc. We welcome novel research, reviews, and articles covering all related topics.