Look the world through the virtual space E-Piloti

OISHI LAB.

[Spatiotemporal Modeling and Visualization of the Real and Virtual Worlds]

Dept. of Informatics and Electronics / Advanced Mobility Research Center

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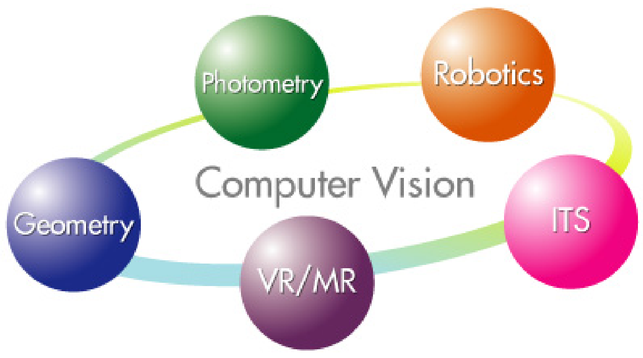
III
EE Dept. CCS

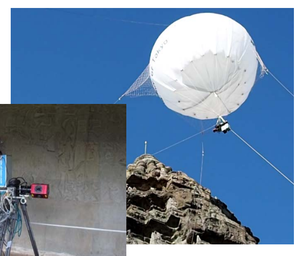
Spatiotemporal Media Engineering

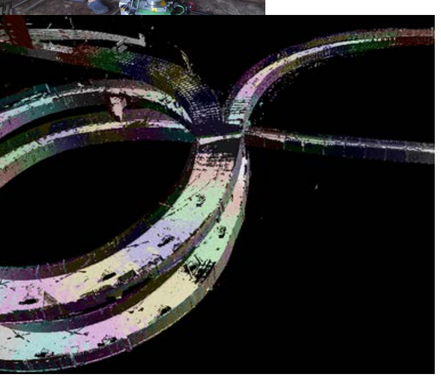
Look the world through the virtual space

Spatiotemporal Modeling and Visualization of the Real and Virtual Worlds



We are developing methods of geometric and photometric modeling of the real world, Robotics, Intelligent Transport System (ITS), Augmented/Mixed Reality (AR/MR) based on the Computer Vision. It is important to develop basic technologies and application systems in each research field.



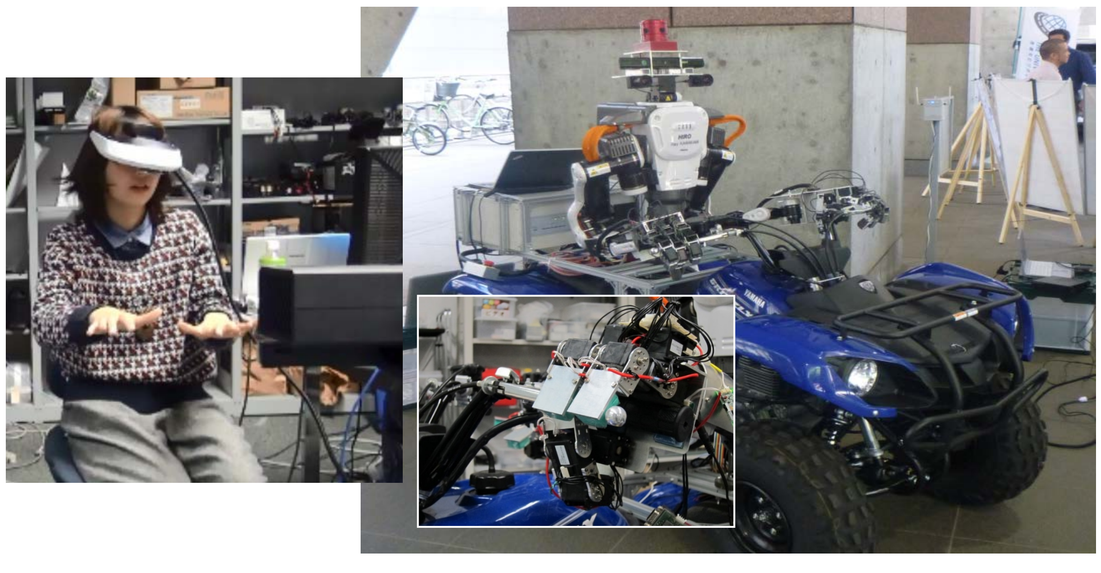


3D Modeling and Analysis

To digitize large cultural heritage assets and urban cities, we have been developing laser range systems, methods of processing partial range data and estimating colors of the objects. 3D shape analysis gives new findings with the collaboration with the researchers of architecture, archaeology and art history.

Spatiotemporal Visualization

We have been developing augmented/mixed reality (AR/MR) methods for superimposing virtual objects into the real world. In addition to the basic technologies such as tracking and occlusion handling, we are developing an MR system mounted on a vehicle that enables us to experience MR in wide fields.



Teleoperation of Humanoid Robot

We are developing a teleoperation system of the humanoid robot based on the "Learning from Observation" paradigm in which the robot learns their behavior by observing the human beings. The VR space is utilized for supporting the intuitive operation of the humanoid robot by the operator.