

e-Intangible Heritage

Abstract

Tangible heritage, such as temples and statues, is disappearing day-by-day due to human and natural disaster. In-tangible heritage, such as folk dances, local songs, and dialects, has the same story due to lack of inheritors and mixing cultures. We have been developing methods to preserve such tangible and in-tangible heritage in the digital form. This project, which we refer to as e-Heritage, aims not only record heritage, but also analyze those recorded data for better understanding as well as display those data in new forms for promotion and education.

This talk mainly covers how to preserve in-tangible heritage, in particular, preservation of Japanese and Taiwanese folk dances. The first half of my talk covers how to display such a Japanese folk dance on a humanoid robot. Here, we follow the paradigm, learning-from-observation, in which a robot learns how to dance from observing human dance. Due to the physical difference between a human and a robot, the robot cannot mimic the entire human actions. Instead, the robot first extracts important actions of a dance, referred to key poses, only exactly mimics those key poses and then interpolates interval trajectories as much as possible but within the limit of the robot capabilities. The second half of my talk covers our effort to apply similar technics to Taiwanese folk dances. Here, I concentrate on the analysis of the key poses and how such key poses relate to their social institutions.



Biography

Dr. Katsushi Ikeuchi is a Principal Researcher of Microsoft Research. He received a Ph.D. degree in Information Engineering from the University of Tokyo in 1978. After working at AI Lab of MIT as a pos-doc fellows for three years, Electrotechnical Lab, Japan as a researcher for five years, Robotics Institute of Carnegie Mellon University as a faculty member for ten years, the University of Tokyo as a faculty member for nineteen years, he joined Microsoft Research Asia in 2015. His research interest spans computer vision, robotics, and computer graphics. He has received several awards, including IEEE-PAMI Distinguished Researcher Award, the Okawa Prize from the Okawa foundation, and the Medal of Honor with Purple ribbon from the Emperor of Japan. He is a fellow of IEEE, IEICE, IPSJ, and RSJ.