

Y. Sato LAB.

[Computer Vision]

Center for Socio-Global Informatics

Visual Media Engineering

Department of Information and Communication Engineering, Graduate School of Information Science and Technology
Emerging Design and Informatics Course, Graduate School of Interdisciplinary Information Studies

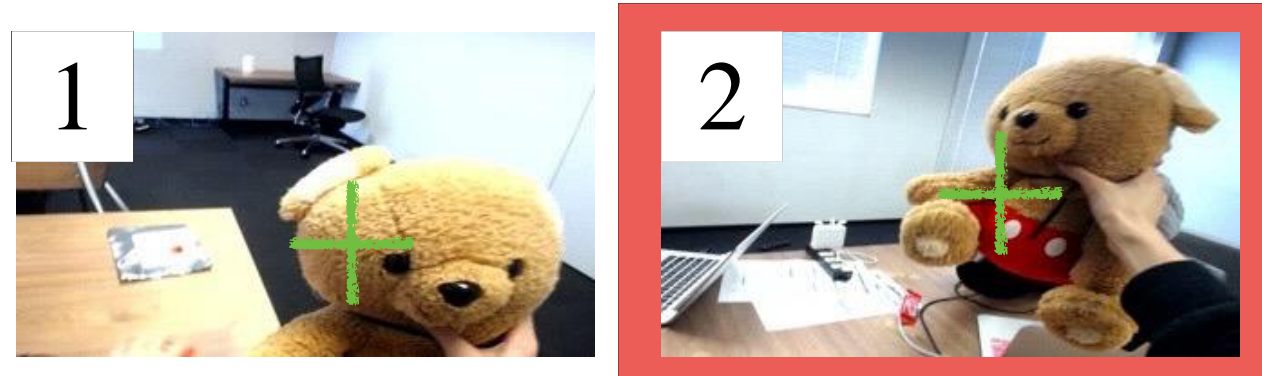
<http://www.hci.iis.u-tokyo.ac.jp/>

Computer Vision for Human Behavior Sensing and Material Perception Analysis

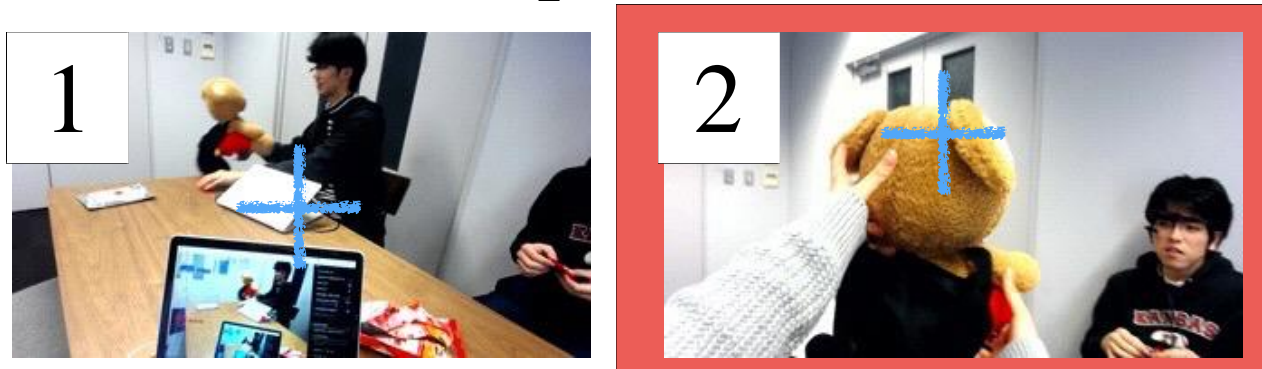
Toward the development of information systems that can casually offer assistance to those who need it, we develop various computer vision techniques for sensing and understanding human behaviors including visual focus of attention in real world and their applications for supporting human interactions. In addition, we have been studying sensing and modeling of real object appearance for material perception analysis.

Understanding Human Gaze and Activities

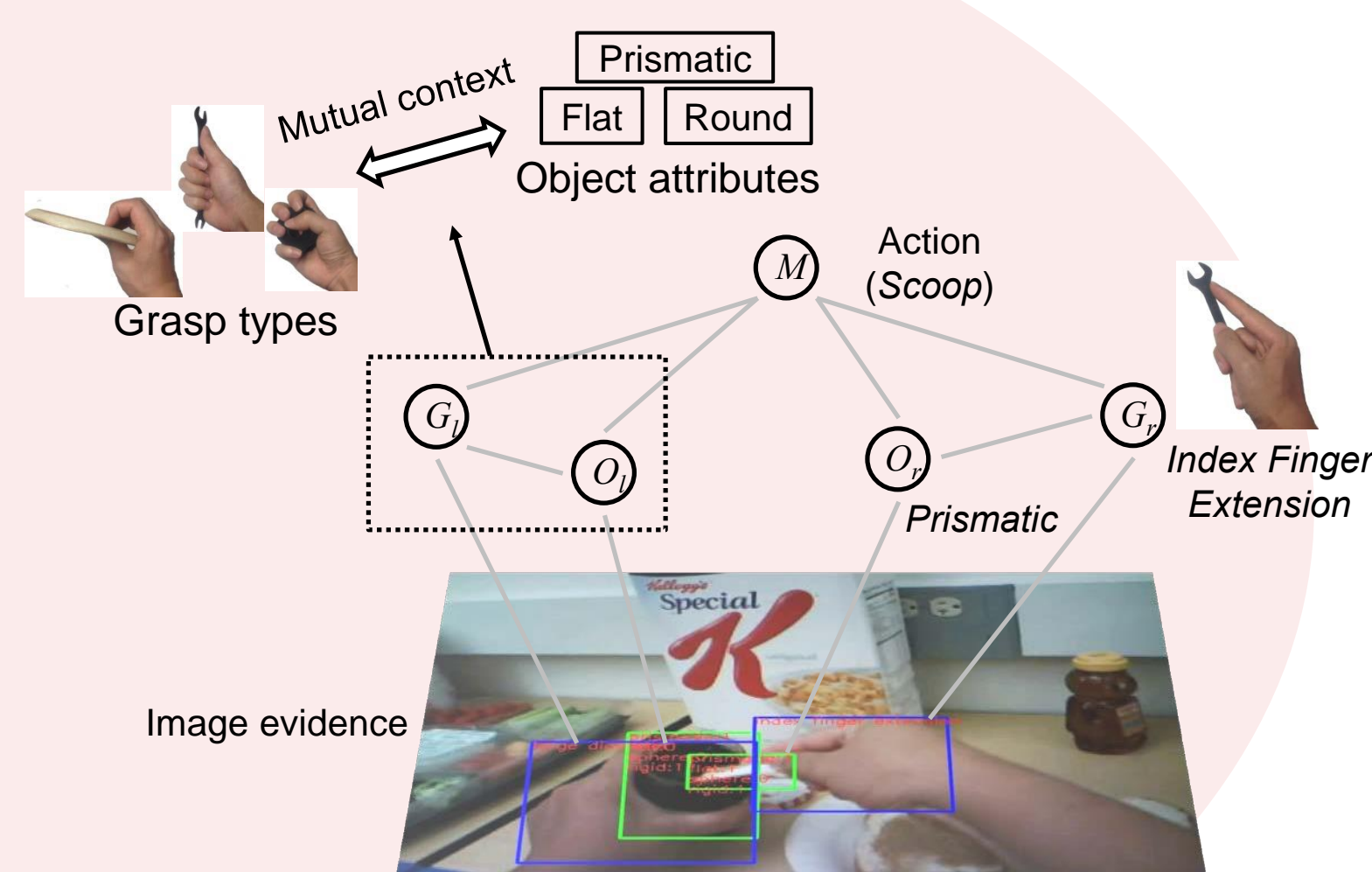
Person 1's first person video



Person 2's first person video

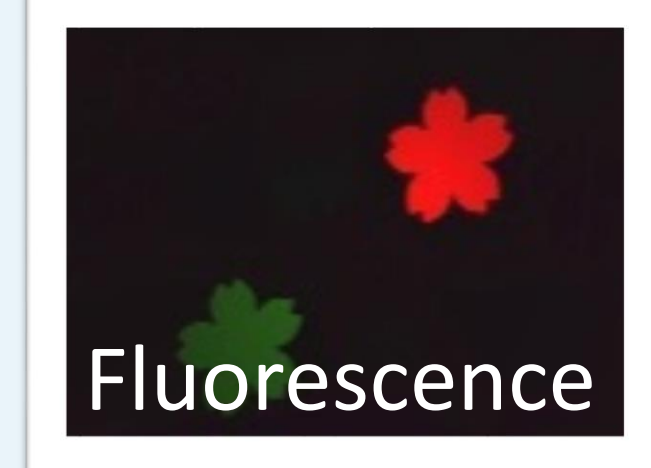
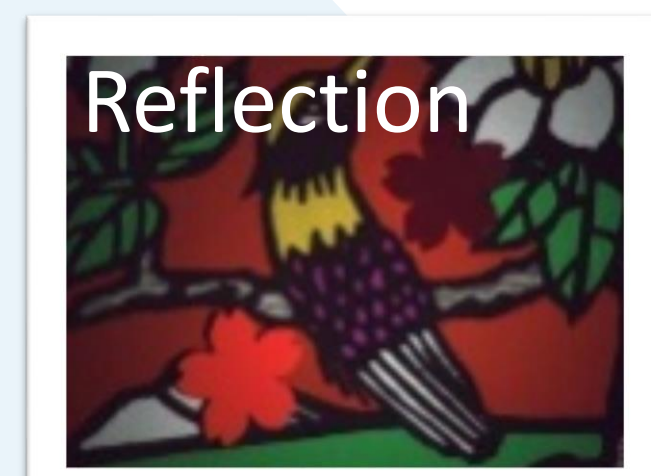
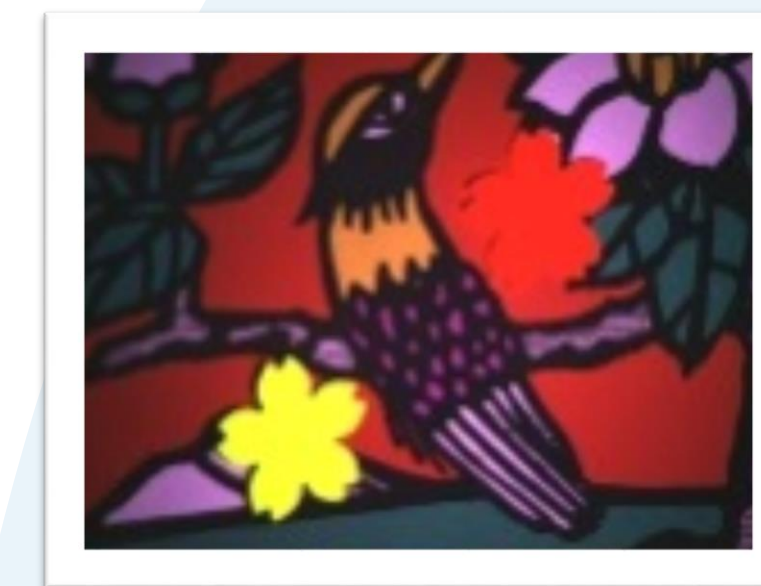


Discovering objects of joint attention from multiple first-person videos



Grasp recognition for first-person videos

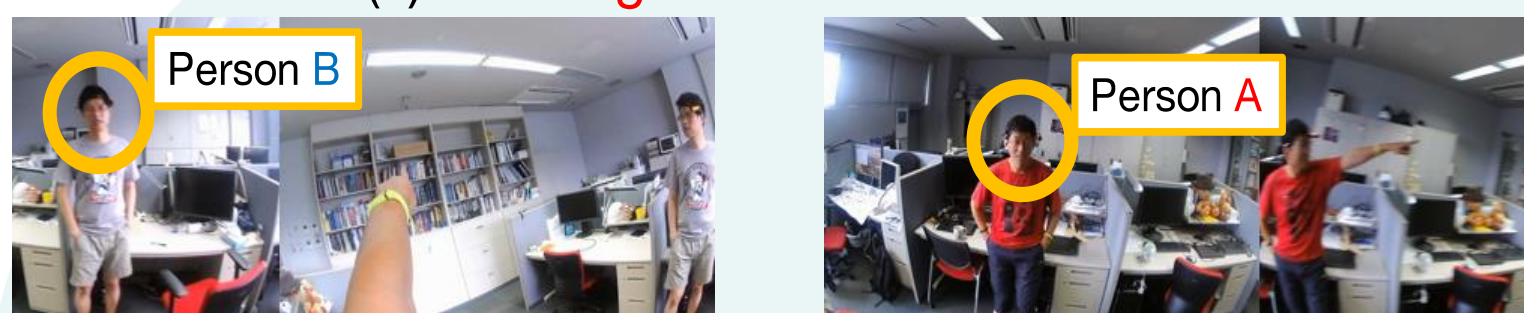
Analyzing Reflectance and Illumination



Spectral modeling and analysis of reflectance and fluorescence

Recognizing and Supporting Human Interactions

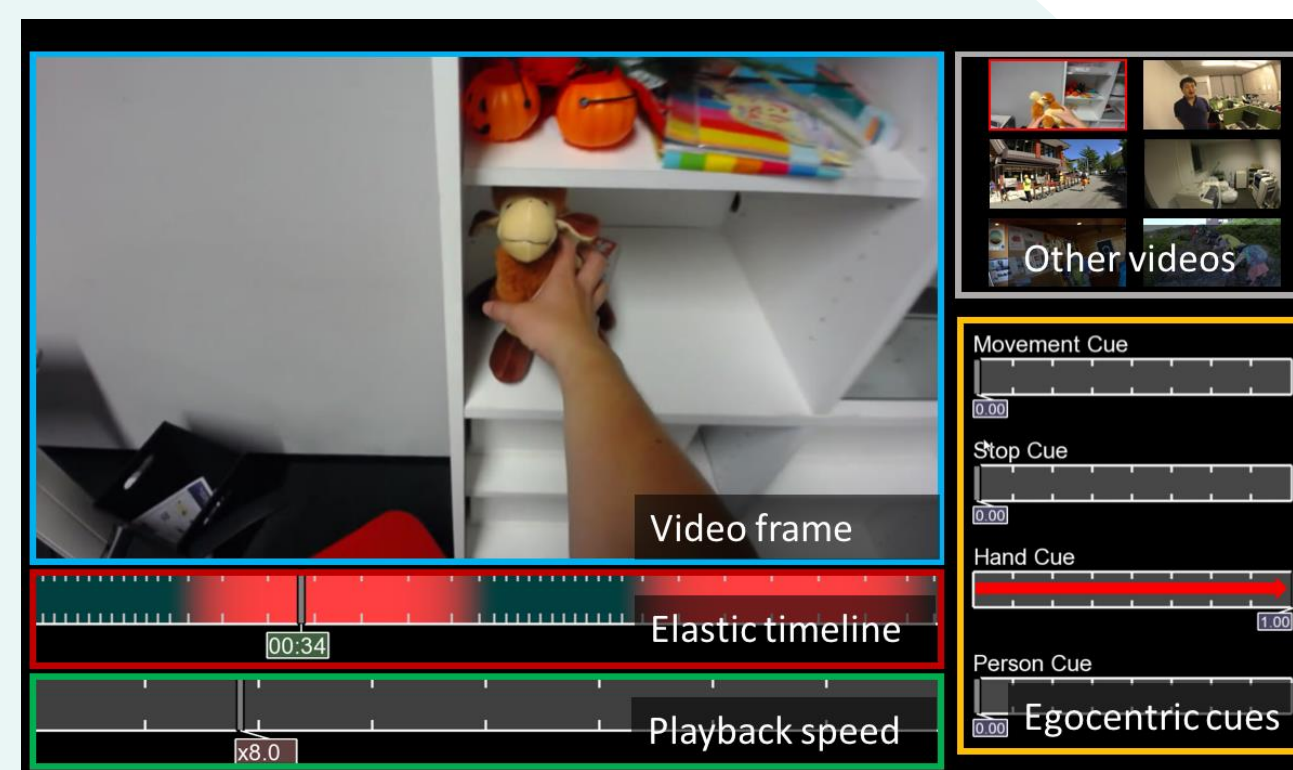
(1) Pointing and shift in attention



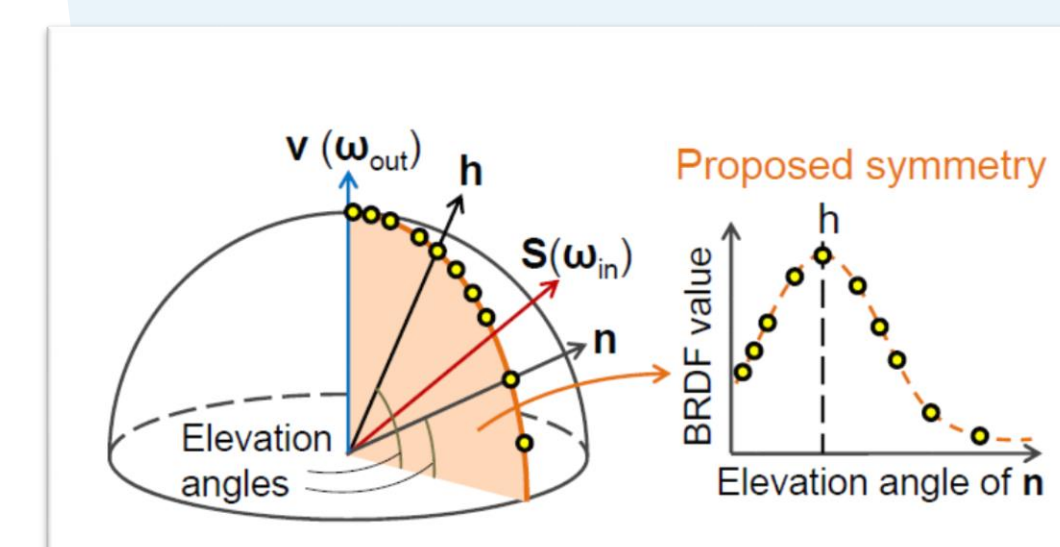
(2) Gesture and positive response



Recognizing actions and reactions from first-person video pairs



Ego-scanning interface for browsing first-person videos



Photometric stereo for detailed shape recovery