CSGI

Y. SATO LAB.

[Computer Vision]

Center for Socio-Global Informatics

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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

Computer Vision for Human Behavior Sensing and Material Perception Analysis

Toward development of information systems which can casually offer assistance to those who need it, real-time sensing of human behaviors including visual focus of attention is important. In our group, we develop computer vision techniques for sensing and understanding our visual focus of attention and activities in real world, and propose their applications to human-computer interaction. In addition, we have been studying sensing and modeling of real object appearance for material perception analysis.

Sensing and understanding human activities
Gaze sensing for modeling visual focus of attention
Modeling of object appearance
Illumination invariant face recognition and human re-identification
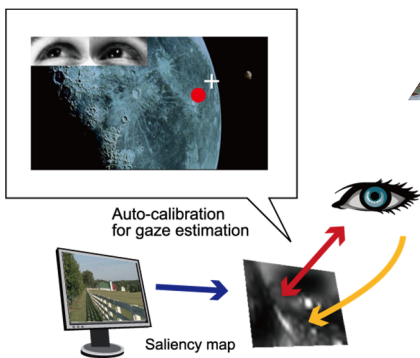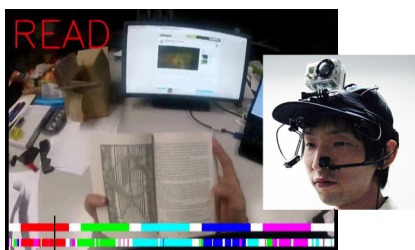

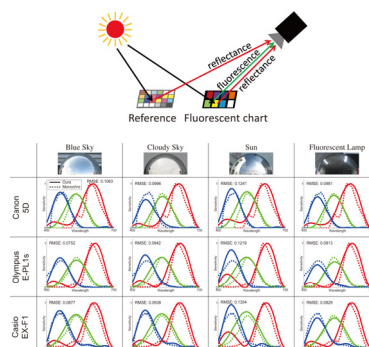
Gaze estimation using visual saliency
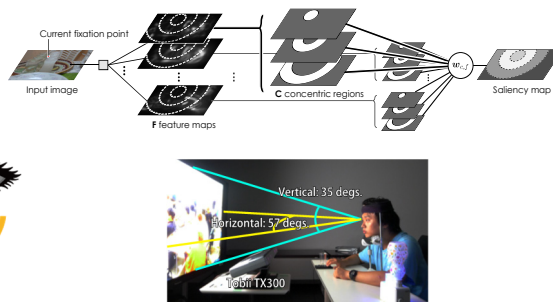
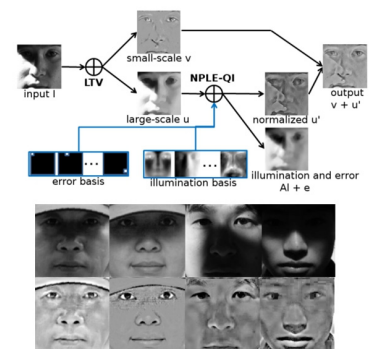Visual saliency model incorporating visual field characteristics

Multi-touch interaction with free head motion

First-person activity recognition using ego-motion and eye-motion

Camera spectral sensitivity estimation based on fluorescence

Face recognition under various illuminations