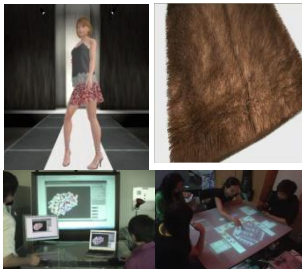




The IMI-PhD Seminar Series is a platform for knowledge dissemination and information sharing on research-in-progress of IMI doctoral candidates. These seminars aim to increase interactions amongst IMI doctoral candidates, the expert faculty members and the business community in order to generate the interdisciplinary research collaborations in New Media and Innovation.

Technologies for Interactive Digital Contents

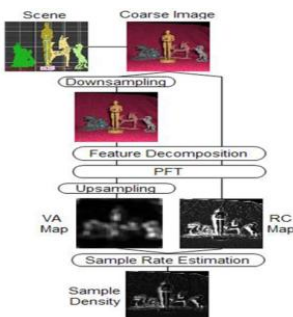
Prof Kim HyungSeok, Visiting Professor, Konkuk University Korea



Contents, including its creation and delivery methods, are getting high interest from public with advances in new media. One of the most important issues in recent trend is to provide better interactivity in multiple heterogeneous platforms. In this talk, technical issues on creating, rendering and collaboratively accessing "interactive contents" will be the main focus. Especially, recent achievements on real-time manipulation of 3D contents, and collaborative virtual environment technologies will be presented. Along with core technical issues, few interdisciplinary approaches are also illustrated as show cases of new contents technology.

Perception Based Image Rendering

Lu DONG, PHD student, IMI, SCE & EEE



With the rapid development of rendering algorithms and graphics hardware, high quality photorealistic renderings can be created more quickly and easily. However, the rendering process is still very time-consuming and research efforts have been made to decrease the rendering computation. Perceptual rendering aims to produce high quality images with as little computation effort as possible by exploiting the properties of the human visual system (HVS). This work focuses on the derivation of efficient adaptive sampling patterns by using two brain related properties of the HVS, the visual attention mechanism and the free energy principle.

Variational Image Segmentation with Spectral Attributes

Zhu Hongyuan, PhD Student, IMI & SCE



Automatic image segmentation has been an ad-hoc topic in computer vision area. It has wide applications in image retrieval, object detection and 3d object reconstruction. An automatic multi-label image segmentation algorithm that can segment an image into a small number of semantic regions will be presented in this seminar. This algorithm combine spectral attributes with Potts variational model for segmentation which help the model form regions which are distinct in the image and boundary is closely snap to the true object boundary. Meanwhile, this algorithm achieves result which is comparable to the state-of-art algorithms.

DATE : 14 February 2012
TIME : 11:00 am – 12:40 pm
VENUE : IMI Seminar Room
Research Techno Plaza
X Frontiers Block, Level 03-01