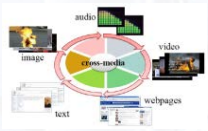
NANYANG TECHNOLOGICAL UNIVERSITY

institute for media innovation
The avant-garde place

IMI RESEARCH SEMINAR

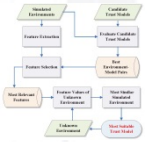
DATE: 11 February 2014, Tuesday
TIME: 11:00 am – 12:30 pm
VENUE: IMI Seminar Room, Research Techno Plaza, XFrontiers, Level 03-01
50 Nanyang Drive, Singapore 637553
*Lunch will be served



Dr ZHANG Hong
Visiting Scholar, IMI

Content-based Cross-media Retrieval via Hierarchical Correlation Mining and Multi-feature Subspace Mapping

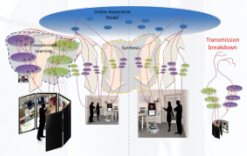
Multimedia data of different modalities often coexist in many data sources, such as websites and digital libraries. While most of existing multimedia retrieval works focus on single type of data, content-based cross-media retrieval aims to learn comprehensive semantics from low-level features of different multimedia data and to provide a flexible retrieval framework, in which we can retrieval relevant multimedia objects whose modality is different from that of the query example. As a new hot research topic, cross-media retrieval faces the challenging of deep heterogeneity between features of different modalities except for the issue of well-known semantic gap. We propose a hierarchical correlation mining approach, which learns both intra-modality and inter-modality feature correlations and uses them for cross-media similarity measure.



Athirai Aravazhi IRRISSAPPANE
PhD Student
IMI/SCE

A Framework to Choose Trust Models for Different E-Marketplace Environments

Many trust models have been proposed to evaluate seller trustworthiness in multiagent e-marketplaces. Their performance varies highly depending on environments where they are applied. However, it is challenging to choose suitable models for environments where ground truth about seller trustworthiness is unknown (called unknown environments). We propose a novel framework to choose suitable trust models for unknown environments, based on the intuition that if a model performs well in one environment, it will do so in another similar environment. Specifically, for an unknown environment, we identify a similar simulated environment (with known ground truth) where the trust model performing the best will be chosen as the suitable solution. Evaluation results confirm the effectiveness of our framework in choosing suitable trust models for different environments.



GU Yuanlong William
PhD Student
IMI/MAE

A Proposed Model for Recognizing and Synthesizing Individualistic Gestures – Perception-link Behavior Model

What is “telepresence”? Minsky described telepresence as a technology which immerses the user into a remote space. However, in the context of telepresence robot, we needed to consider more than the user’s experience. Hence, to improve social presence experience of the user and interactant, the presentation introduces a new user interface that model user’s reaction to the environment context.
This presentation will first introduce the problems of existing telepresence robot and the ways of improving it. Next, it will cover a new model that can improve user presence without deteriorating user’s telepresence experience. The proposed model uses two existing models (deep learning network and Fusion ART) to capture and synthesize individualistic gestures.

Yasir TAHIR
PhD Student
IMI/EEE

Nao Robot as a Social Mediator

In this work we present a humanoid robot (Nao) that provides real-time sociofeedback to participants taking part in two-person dialogs. The sociofeedback system quantifies speech mannerism and social behaviour of participants in an on-going conversation, determines whether feedback is required, and delivers feedback through Nao. For example, Nao alarms the speaker(s) when the voice is too high or too low, or when the conversation is not proceeding well due to disagreements or numerous interruptions. In this study, participants were asked to engage in two-person conversations while the Nao robot acts as a mediator. Participants then assess the received sociofeedback with respect to various aspects, including its content, appropriateness, and timing. Participants also evaluate their overall perception of Nao as social mediator via the Godspeed questionnaire.

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