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IMI RESEARCH SEMINAR

DATE: 21 April 2015, 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 XIA Xinxing
Visiting Researcher,
IMI

Horizontal Light Field 3D Displays with Directional-Diffusing Screen

Using light field reconstruction technique, several kinds of light field 3D displays are proposed. These systems could display 360-degree viewable 3D scenes with correct occlusion effect. A high-frame-rate colour projector (or projector array) and different types of directional-diffusing screen are used in the systems to create the light field of real 3D scene. The principle and the mapping relation of 3D image for all the surrounding viewpoints are analysed. The display systems have been set up and the real 3D colour animation image has been presented vividly. One 3D display system could make the whole displayed 3D scenes floating over the flat screen in the air successfully, which could make the interaction with the virtual scenes more naturally.

EE Changshun Andrew
PhD Student,
WKWSCI / IMI

"Pursuant to Section 49, Subsection 7E…": The Yam Ah Mee Internet Meme as a Representation of Cultural Expression in Singapore

The term 'meme' was coined by Dawkins (1982) to mean "a unit of cultural transmission" made possible through imitation or replication (p. 192).
Given the potential for structural change in communities and to a larger extent, societies, as offered by expression of cultural values through 'viral' memes, this research endeavors to examine how Internet memes, such as the Yam Ah Mee meme, represent a form of cultural expression in the context of Singapore (Underwood & Welser, 2011). Focusing on two key components of cultural expression – creativity and idiosyncratic sharing – and utilising semi-structured interviews, the research's findings support the notion that creativity is a reflection of social relationships although idiosyncratic sharing in the context of the Yam Ah Mee meme seems to persist in a reliance on timeliness and cultural context of the sharing, which demarcates the extent to which the meme can be shared in the online space, despite the affordances in transmission reach made possible by the Internet and ICTs. Implications and directions for future research are discussed.

LI Qiaohong
PhD Student,
SCE / IMI

Bag-of-Words Representation for Non-Intrusive Speech Quality Assessment

Research on non-intrusive speech quality assessment (SQA) aims to develop a computational model simulating the human perception of speech signals accurately and automatically without any prior information about the reference clean speech signals. In this paper, we propose to learn a non-intrusive SQA metric based on bag-of-words (BoW) representation of speech signals. In particular, the proposed method treats the whole speech utterance as a text document and extracts perceptual linear prediction (PLP) features of local segments as words. The speech utterance is then represented as a histogram of codewords, with each entry as the probability of a codeword appeared in the utterance. After the BoW representation of speech signals is obtained, support vector regression (SVR) is used to learn the metric for quality evaluation. Experimental results demonstrate that the proposed non-intrusive SQA metric BoW can obtain better performance than relevant state-of-the-art metrics.

TAN Jiat Chow
PhD Student,
WKWSCI / HSS

How Does Intensity of Social Network Sites Use Moderate Cybervictimization? Understanding the Factors and Conditions Using an R-based Tool for Probing Moderation Effects

Studies on cyberbullying are replete with questions about whether certain risk factors are likely to predict cybervictimization which can be reframed in terms of moderation effects i.e. how the effect of a predictor variable on an outcome variable depends on the value of a moderator. Using the dataset from Pew's Teens and Parents survey, two significant moderation effects were observed that could be interpreted to mean that the relationship between traditional victimization and cybervictimization depend on the teenager's intensity of SNS use and gender. A secondary purpose here is to extend the conventional analytic approach in the form of an R package that provide researchers with methods which they can use to probe moderation effects in their projects.

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