Computer Science Research and Education
in Harbin Institute of Technology

Date: 15:00 – 17:00, June 4 (Thu), 2009

Place: 4F Large Conference Room, Research Institute of Electrical Communications,

Katahira Campus, Tohoku University

〒980-8577　2-1-1, Katahira, Aoba-ku, Sendai, Japan

June 4 (Thursday), 2009　　15:00 – 16:00

Lecturer :　Prof. XiaoFei XU (Dean of Computer Science School and Software School in Harbin Institute of Technology)

Title :　An Introduction to Research and Education of the School of Computer Science and Technology, the School of Software in Harbin Institute of Technology in China.

Abstract :　Harbin Institute of Technology(HIT) is one of top nine universities in China. The School of Computer Science and Technology, which has a Chinese National Key Discipline on Computer Science and Technology, is also one of the strongest Schools or Department of Computer Science in China. There are 6 Doctoral Programs in the school with more than 300 Ph.D. students. And there are more than 20 research fields dealing with computer architecture, computer software and theory, computer application technology, artificial intelligence, information security, digital media, etc. This school emphasizes the research oriented education model. The presentation will introduce research and education situation in School of Computer Science and Technology in HIT. While the School of Software in HIT, as a Chinese National Pilot School of Software, aims at developing a software-industry-oriented education model for cultivating the software industrial talents. With the ethos "Industrialization, Internationalization, High Quality, High Speed", this school has set up an ecosystem for the industry oriented educational with international features. Several international dual degree programs with multi-countries have been developed. The collaborative relationship with more than one hundred industrial partners and more than ten international partners has been established. The practice and interested experience of this school is also presented. From this presentation, the audience can have a view of Chinese high level education and research.

June 4 (Thursday), 2009　16:00 – 17:00

Lecturer :　Prof. Xiamu NIU (Director of ICT Research Institute School in Computer Science School of Harbin Institute of Technology)

Title :　Perceptual information security

Abstract :　Secure content protection has been a major concern with the prevalence of multimedia technology. Multimedia security places more emphasis on perceptual aspect owing to the perceptible essence of multimedia. This talk provides an overview of multimedia security in the context of perceptual information. On foundation of cognitive psychology, we illustrate the sensation and perception processes of multimedia during which perceptual information is obtained. The concepts of sensation and perception entropies are proposed as perceptual information measurement metrics. To reveal the perceptual information processing essence of multimedia coding, encryption and authentication, these techniques are described as mappings in the data-perceptual information sets and generic information space. Moreover, multimedia coding and security techniques are investigated from the perspective of perceptual information amount with the aid of sensation and perception entropies.