HIS'03

Hybrid Intelligent Systems Conference, Dec 14th to 17th, Melbourne (Australia)

Proposal for half a day tutorial session on

"Innovative Soft Computing Applications for Mobile Communication"

Abstract:

Soft Computing techniques comprise of topics from Fuzzy logic, Neuro computing, evolutionary computing, probabilistic computing, chaotic computing and machine learning. They are frequently being used where the mathematical model for given problem is not available. It is a step in lateral thinking for solving numerous unsolved problems. As the use of soft computing leads to High Machine IQ (HMIQ), the resulting smart systems find innovative applications.

The soft computing techniques are increasingly being used for mobile communications. In this session, the speakers explore the design and development of some innovative applications of soft computing for mobile communication.

- ➢ Smart Volume Tuner for Cellular Phones: Using the information on background noise levels, a fuzzy logic controller adjusts the acoustic volume levels of mobile handset. This leads to a smart mobile phones which delivers an improved speech quality.
- ➢ Voice dialling for mobile phones: A genetic-fuzzy algorithm used for voice dialling application. The resulting smart dialling application is described.
- ➢ Background Noise classification and Voice Activity Detector using soft computing techniques

The demo of these applications will be provided at the end of the session. Also, we will distribute demo CDs to the attendees with the product brochures.

Session Organizer:

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Brief Biography:

Dr. Suthikshn Kumar is currently Project Manager in the Communications and Embedded Systems Division at Larsen & Toubro Infotech Limited. He studied engineering at Bangalore University, Indian Institute of Technology where he received his BE and MTech Degrees respectively. He received the PhD degree from the University of Melborne(Australia). Dr. Kumar is a Senior Member of IEEE, Member of IETE, CSI, ACM, SPIN, YRC-WFSC. He is the founding chair of Bangalore chapter of ACM. He has received employee recognition awards at Philips Semiconductors and InfineonTechnologies 3i awards for innovation. He has published several papers at major international conferences/conventions/journals. He is the chair of HiPC workshop on Soft Computing (WoSCo'02 and WoSCo'03).