ENABLING NATURAL COMPUTING

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ABSTRACT

We are entering the third generation of computer human interface. In contrast to the first and second generations where human users must learn the arcane command languages or graphical icons to operate computers in the ways the computers are designed, the third generation interface will allow the users to express their intents naturally by shifting the burden of understanding what it takes to interact from the human to the computer. Natural computing will be mainstream in the near future that could dramatically improve the quality of our daily lives. Spoken language technologies play a central role for natural computing. Spoken language is the modality that can offer a consistent means of interaction for a variety of computer form factors across a wide range of hands free, eyes free environments. Technology advancements in this area have made impressive progresses that the prevalence of spoken language interface is no longer a question of "whether" but "when". In this talk, I'll summarize the recent progress of the industry and academia in brining natural computing to the mass market.

ABOUT THE SPEAKER

Dr. Xuedong Huang is General Manager responsible for Microsoft's new incubation initiatives. Xuedong (XD) Huang joined Microsoft Research as a Senior Researcher to lead the formation of Microsoft's Speech Technology Group in 1993. From 2000 to 2004, he served as General Manager of Microsoft's Speech Platforms Group responsible for research, development, marketing, and business development of Microsoft speech technologies and products. He led Microsoft developing and marketing Microsoft's speech technologies and products, including the award-winning Speech Server 2004. Prior to joining Microsoft, he was on the faculty of Carnegie Mellon's School of Computer Sciences and directed the effort in developing CMU's Sphinx-II speech recognition system. He is an affiliate Professor at University of Washington. He has published more than 100 journal and conference papers and is a frequent keynote speaker in numerous industry conventions. He has co-authored two books: Hidden Markov Models for Speech Recognition (Edinburgh University Press 1990) and Spoken Language Processing (Prentice Hall 2001). Huang's professional awards include: National Education Commission of China's 1987 Science and Technology Progress Award, IEEE Signal Processing Society's 1992 Paper Award, Allen Newell Research Excellence Medal, and Top Ten Leaders in the speech industry award from SpeechTek. Huang holds a doctorate in Electrical Engineering from University of Edinburgh, a master's in Computer Sciences from Tsinghua University, and a bachelor's in Computer Sciences from Hunan University. Huang is a Fellow of the IEEE.