

Citation

For pioneering and outstanding contributions to speech science and conversational spoken-language systems



Dr. Victor Zue

Positions and Organizations :

Delta Electronics Chair Professor, EECS
 Director of International Relations, CSAIL
 Massachusetts Institute of Technology (MIT)

Doctorate : Sc.D. (MIT, 1976)

Date of Birth : February 19, 1946

Brief Biography :

1968 B.S., in Electrical Engineering, Univ. of Florida
 1969 M.S.E., Univ. of Florida
 1976 Sc. D., MIT
 2001- Director, Laboratory for Computer Science (LCS),
 2011 MIT
 Co-Director and the Director, Computer Science and
 Artificial Intelligence Laboratory (CSAIL), MIT
 Present Delta Electronics Chair Professor,
 Electrical Engineering and Computer Science, MIT

Main Awards and Honors :

1990 Fellow, Acoustical Society of America
 1998 DARPA Sustained Excellence Award
 2002 Speech Technology Magazine Inaugural Lifetime
 Achievement Award
 2004 Fellow, US National Academy of Engineering
 2007 ISCA Medal for Scientific Achievement
 2008 Academician, Academia Sinica, Taiwan
 2008 Fellow,
 International Speech Communication Association
 2013 IEEE: James L. Flanagan Speech and Audio
 Processing Award

Main Achievements :

Dr. Zue was born on February 19, 1946 in Sichuan, China. He received his Bachelor's and Master's degree in Electrical Engineering from the University of Florida in 1968 and 1969, respectively, and his doctor of Science degree (Sc.D.) in Electrical Engineering from the Massachusetts Institute of Technology (MIT) in 1976. Since then, he has been in various research and teaching positions at MIT, where he is currently the Delta Electronics Chair Professor of Electrical Engineering and Computer Science.

Throughout his professional life, Dr. Zue has been conducting research that will ultimately lead to the development of computer systems with which ordinary people can communicate using human language. During the earlier part of his career, Dr. Zue studied the encoding of phonetic and phonological information in human communication. In 1978, he demonstrated for the first time that, armed with this knowledge, phonetic information can be deciphered by visually examining speech spectrograms, or voiceprints. During the ensuing decade,

he taught courses on spectrogram reading around the world, including in Japan.

Subsequently, he was among the first to advocate that we can achieve natural interactions with computers only if we can communicate with them as conversational partners. Therefore, several human language technologies – speech recognition/synthesis, natural language understanding/generation, and discourse/dialogue modeling, must be combined to build “conversational interfaces.” Since the early nineties, the Spoken Language Systems Group at MIT has pioneered such an approach that led to significant government funding for the community, and the realization of a variety of such systems that can allow users to call on the phone, speak to a computer interactively, and receive information about weather, flight arrival and departure times, restaurants, driving directions, etc. These are forerunners of some of the current commercial capabilities that exist today in systems such as the Apple Siri. His effort have been well-documented in journals and conference proceedings, and have also been extensively covered by the national and international press, including Time, BusinessWeek, the Economist, and Discover.

Between 2001 and 2011, Dr. Zue has held various positions of stewardship at MIT – as the Director of the Laboratory for Computer Science (LCS), and the Co-Director and the Director of the Computer Science and Artificial Intelligence Laboratory (CSAIL). CSAIL is MIT's largest interdepartmental laboratory, and is recognized worldwide for its innovative research in all aspects of computer science.

Dr. Zue accomplishments have been honored with many awards. He is a Fellow of the Acoustical Society of America, a Fellow of the International Speech Communication Association. He was inducted into the National Academy of Engineering in 2004 “for advances in the understanding of acoustic phonetics and systems for understanding spoken language.” In 2008, he became an Academician of Academia Sinica in Taiwan. In 2013, Dr. Zue was named the recipient of the IEEE James L. Flanagan Speech and Audio Processing Award “For pioneering contributions to acoustic phonetics and conversational spoken-language systems.”

He is internationally known for his acoustic-phonetic knowledge, and the formulation of the paradigm of “spectrogram reading” to formalize this knowledge. He and his colleagues in the MIT Spoken Language Systems Group he founded also pioneered the development of spoken dialogue systems that enable users to converse with computers using human language.

For Pioneering and outstanding contributions to speech science and conversational spoken-language systems, Dr. Victor Zue is hereby awarded the Okawa Prize.