



SEMINAR ANNOUNCEMENT

**IEEE Gainesville Section
and
Department of Electrical and Computer Engineering Present**

Energy Based Target Localization in a Wireless Ad Hoc Sensor Network

by

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Department of Electrical and Computer Engineering

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Abstract

Wireless ad hoc sensor network is an emerging technology for remote monitoring. An important signal processing task to be performed by such a sensor network is to detect and locate a moving or standing ground vehicle target based on acoustic or seismic signals emitted from the vehicle's engine or transmission system. In this presentation, we present preliminary work of a novel target localization method using the acoustic signal energy measured at surrounding sensors. Using an exponential energy decaying model of acoustic sources, we propose a robust and efficient method to compute the target location based on a maximum likelihood estimation framework. Some basic properties of the proposed algorithm will be discussed, together with simulation results.

Author's biography

Yu Hen Hu is a faculty member at the Department of Electrical and Computer Engineering, University of Wisconsin, Madison. He received the BSEE from National Taiwan University, and MSEE and PhD degrees from the University of Southern California. Prior to joining University of Wisconsin, he was a faculty in the Electrical Engineering Department of Southern Methodist University, Dallas, Texas. His research interests include multimedia signal processing, artificial neural networks, fast algorithms and design methodology for application specific micro-architectures, as well as computer aided design tools. He has published more than 180 technical papers in these areas.

Dr. Hu is a Fellow of IEEE. He is a former associate editor (1988-1990) for the IEEE Transaction on Acoustic, Speech, and Signal Processing in the areas of system identification and fast algorithms. He is currently associate editor of the Journal of VLSI Signal Processing. He is a founding member of the neural network signal processing technical committee of the IEEE signal processing society and served as chair from 1993-1996. He is a former member of the VLSI signal processing technical committee of the signal processing society. He served as the secretary of the IEEE signal processing society (1996-1998).

If you have any questions, please contact Dr. Michael Fang at fang@ece.ufl.edu or (352) 846-3043.

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