

Curriculum Vitae

Yoon Hak Kim

Signal and Image Processing Institute
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Education

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|--------------|--|-----------------|
| Ph.D. | Electrical Engineering, University of Southern California (USC)
Thesis : Distributed Algorithms for Source Localization using
Quantized Sensor Readings
Advisor: Antonio Ortega (USC) | May 2007 |
| MSEE | Electrical Engineering, University of Southern California (USC)
MSEE on Communication Theory | May 2002 |
| MSEE | Electronic Engineering, Yonsei Univ. in Korea
MSEE on VLSI design | 1994 |
| BSEE | Electronic Engineering, Yonsei Univ. in Korea | 1992 |

Research Interests

General :

- Distributed Signal Processing and Data compression in Sensor Networks

Current Interests :

- Application Specific Quantization Scheme
- Distributed Estimation based on Quantized data
 - Localization Algorithm based on Quantized Sensor Readings
- Rate Allocation/ Power Scheduling in Sensor Networks

Research and Professional Experience

- 2004-Present **USC Signal and Image Processing Institute**
Graduate Research Assistant in Compression Group of Professor Ortega
- Quantization Scheme for Source Localization in Sensor Networks
 - Distributed Encoding Algorithm
 - Localization Algorithm based on Quantized Data
 - Rate Allocation in context of Quantization

Curriculum Vitae

- 2003 **USC Signal and Image Processing Institute**
Directed Research with Professor Ortega
- Stabilization of Linear time-invariant systems using Leaky prediction
- 1998-1999 **Hyundai Electronics, Korea**
Senior Engineer
- IEEE 1394 Physical Layer design (Verilog HDL coding)
- 1994-1998 **LG Semicon., Korea**
Research Engineer
- Adaptive Filter Design in DVD (System Spec. in C)
- Viterbi Decoder in CDMA
- 100M Ethernet Physical Layer Design

Course Projects :

- EE669: Advanced Digital Image Processing
Analysis of Rate Distortion Model
- EE596: Wavelets
Multiresolutional Approach to Tracking Problem in Sensor Networks

Publications

- **Y. H. Kim** and A. Ortega, "Distributed Encoding Algorithm for Source Localization in Sensor Networks" In preparation for journal submission.
- **Y. H. Kim** and A. Ortega, "Quantizer Design and Rate Allocation for Source Localization in Sensor Networks" Submitted to IEEE Transactions on Signal Processing
- **Y. H. Kim** and A. Ortega, "Maximum A Posteriori (MAP)-Based Algorithm for Distributed Source Localization using Quantized Acoustic Sensor Readings" IEEE International Conference on Acoustic, Speech and Signal Processing (ICASSP), May 2006
- **Y. H. Kim** and A. Ortega, "Quantizer Design and Distributed Encoding Algorithm for Source Localization in Sensor Networks" IEEE International Symposium on Information Processing in Sensor Networks (IPSN), April 25-27, 2005.
- **Y. H. Kim** and A. Ortega, "Quantizer Design for Source localization in Sensor Networks" IEEE International Conference on Acoustic, Speech and Signal Processing (ICASSP), March 2005

Curriculum Vitae

Skills

- Computer Programming and Simulation Tools:
 - C, C++, Matlab
 - Verilog HDL, Cadence (Schematic Capture), Synopsis (HDL compiler)
- Working Knowledge on the principles of
 - Information Theory, Estimation/Detection Theory, Optimization Techniques
 - Communication Theory, Digital Signal/Image Processing, Wavelets

Reference

Professor Antonio Ortega (213) 740-2320, antonio.ortega@sipi.usc.edu