

Hesham Mahmoud Z. Badr

Education

Ph.D. Department of Electrical & Computer Engineering, Louisiana State University, USA, May 2006.

M.Sc., Department of Electrical & Computer Engineering, Louisiana State University, USA, December 2004.

M.Sc., Department of Electrical Engineering, Assiut University, Egypt, May 1999.

B.Sc., Department of Electrical Engineering, Assiut University, Egypt, May 1993.

Ph. D. thesis entitled: A State-Space Approach to Blind Estimation of MIMO Wireless Channels.

M. Sc. thesis entitled: Design of Perfect Reconstruction M-Band FIR QMF.

Professional Experience

- Lecturer, Communication Department, Faculty of Engineering, Helwan University, Egypt, since October 2006.
 - Ph.D student/Teaching Assistant, Department of Electrical & Computer Engineering, Louisiana State University, USA, January 2001 – May 2006.
 - Assistant lecturer, Communication Department, Faculty of Engineering, Helwan University, Egypt, January 2000 – January 2001.
 - Assistant lecturer, Electrical Engineering Department, Faculty of Engineering, Assiut University, Egypt, February 1999 - December 1999.
 - Demonstrator, Electrical Engineering Department, Faculty of Engineering, Assiut University, Egypt, January 1994 - February 1999.
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Research Interests

Digital signal processing, wireless data communications, and image processing.

Teaching Experience

Present:

Teaching Optical Communication, Linear Control, Electronics, Electrical Measurements, Logic design, Numerical Analysis, Digital signal processing, and Communication theory.

January 2001 – May 2006:

Teaching assistant for undergraduate students at Louisiana State University, USA for the following courses: Circuits, Electronics, Digital Logic, Linear System Analysis, Digital Signal Processing, Digital Communication.

January 1994 - January 2001:

Assisted in supervising B. Sc. Projects for undergraduate students at Assiut University, Egypt
Assisted in teaching the following undergraduate courses at Assiut University, Egypt: Digital Signal Processing, Electronic Circuits, Radio Wave Propagation, Guided Waves & Antennas, Control Systems, System Analysis, Digital Design, Numerical Analysis.
Assisted in teaching labs for undergraduate courses at Assiut University, Egypt.

Projects

1. Implementation of WIMAX 802.16e system using FPGA kit and system simulation using MATLAB with various modulation techniques. Helwan University, 2008
 2. CDMA IS-95 and CDMA 2000 simulator and planning a real site in Ainshams using CDMA 2000. Helwan University, 2008
 3. Vehicle recognition system. Building a system which recognizes cars' license plates, vehicle's color recognition, and "make and model recognition." Helwan University, 2007
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Publications

1. M. F. Fahmy, G. M. A. El-Raheem and H. M. Z. Badr, "A novel method for the design of maximally decimated pairwise FIR filter banks, " Proc. 16th National Radio Science Conference, NRSC'99, Cairo, Egypt, Feb. 1999.
 2. M. F. Fahmy , G. M. A. El-Raheem and H. M. Z. Badr , " Design of even maximally decimated pairwise FIR filter banks," European Conference on Circuit Theory and Design, ECCTD'99, Stresa, Italy, Aug. 1999.
 3. Guoxiang Gu, Xi-Ren Cao; Hesham Badr, "Generalized LQR control and Kalman filtering with relations to computations of inner-outer and spectral factorizations," *IEEE Trans. Automat. Contr.*, vol. 51, pp. 595-605, April 2006.
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