Edzel R. Lapira

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Research Interests:

Application of Statistical Signal Processing in Condition Based Maintenance Systems & Prognostic Tools, Image/Audio Signal Processing, Blind Source Recovery, Digital Watermarking

Educational Background:

2006 – present **UNIVERSITY OF CINCINNATI – Cincinnati, Ohio, USA**
PhD in Industrial Engineering

2000-2003 **DE LA SALLE UNIVERSITY – Manila, Philippines**
MS in Electronics & Communications Engineering (With High Distinction)
Research Area: Blind Source Separation of Mixed Speech Signals

1995-1999 **DE LA SALLE UNIVERSITY – Manila, Philippines**
BS in Electronics & Communications Engineering (Honorable Mention)
Research Area: Simulation Tools for Speech Processing

Work Experience:

2007 – present **RESEARCH ASSISTANT – NSF I/URC Center for Intelligent Maintenance Systems (IMS)**
University of Cincinnati – Cincinnati, Ohio, USA
Currently working on the following projects:

- "Health Monitoring of Industrial Robots" at Toyota Motor Manufacturing at Kentucky (TMMK)
- "Smart Machine Technology Development and Demonstration Test-Bed" with TechSolve Inc.

Sept. 2006 **TEACHING ASSISTANT – Mechanical, Industrial and Nuclear Engineering Department**
University of Cincinnati – Cincinnati, Ohio, USA

1999 – 2006 **UNIVERSITY LECTURER – Department of Electronics & Communications Engineering**
De La Salle University – Manila, Philippines

Jan. - Mar. 1999 **CADET TEST ENGINEER – Analog Devices**
Analog Devices – Gen. Trias (ADGT), Cavite, Philippines

Research Involvement:

2005/6 **REAL-TIME TELEVISION COMMERCIAL TRACKING SYSTEM IN A VIDEO SEGMENT**
A VHDL HARDWARE MODEL OF THE ITU-T G.728 STANDARD
A SYNTHESIZABLE HARDWARE MODEL FOR H.263 VIDEO CODEC
PC-BASED TUBERCOLOSIS DETECTION USING IMAGE PROCESSING TECHNIQUES

2004 **IMAGE WATERMARKING WITH SELF HEALING CAPABILITIES**
This paper has been accepted for publication in the DLSU Engineering Journal for its September 2005 issue.

2003 **BLIND SEPARATION OF AN OVERDETERMINED MIXTURE OF INDEPENDENT SPEECH SOURCES USING OUTPUT DECORRELATION**

IMPLEMENTATION OF A MODIFIED H.261 STANDARD
This paper was accepted for publication in IEEE-TENCON 2003 in Bangalore, India.

REAL-TIME PC-BASED NON-STATIONARY HUMAN MOTION DETECTION AND TRACKING IN VIDEO SEQUENCES
A MODIFIED VIDEO CODING ALGORITHM BASED ON THE H.261 STANDARD
These papers were presented at HNICEM 2003.

1999 **SIMULATION TOOLS FOR SPEECH PROCESSING**