

Edzel R. Lapira

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EDUCATION

PhD • Industrial Engineering • GPA: 4.0

Dissertation: *Fault Detection in a Network of Similar Machines Using Clustering Approach*
University of Cincinnati, Cincinnati, OH, USA • 2012

MS • Electronics & Communications Engineering • GPA: 3.8

Thesis: *Blind Separation of an Over-determined Mixture Using Output Decorrelation*
De La Salle University, Manila, Philippines • 2003

BS • Electronics & Communications Engineering • GPA: 3.3

Senior Project: *Simulation Tools for Speech Processing*
De La Salle University, Manila, Philippines • 1999

WORK EXPERIENCE

Research & Development Intern • Caterpillar Process R&D, Peoria, IL • 2008

Developed a health monitoring system for lathe and grinding machines

Development Intern • Institute for Information Industry, Taiwan • 2011

Developed a cloud-based tool condition monitoring system for CNC milling machines

Researcher • NSF I/UCRC for Intelligent Maintenance Systems (IMS) • 2007-2012

Provide research & development, industrial training & technical leadership in:

- » Wind Turbine Performance Assessment and Degradation Monitoring
 - » Prognostics Demonstration Platform Development for Semiconductor Manufacturing
 - » Bearing Assessment, Torque Monitoring & Cluster Fault Detection for Industrial Robots
 - » Machine Tool Health Monitoring & Smart Machine Platform Initiative Development
- Industry Partners: Caterpillar, ITRI, ISMI, Nissan, PMC, Sinovel, TechSolve, Toyota

Teaching Assistant • University of Cincinnati • 2008-2012

Taught, updated, streamlined & improved experiment materials for the Measurements & Instrumentation Laboratory course

Lecturer • De La Salle University • 2000-2006

Taught diverse courses such as Electric Circuit Theory, Industrial Instrumentation, Broadcasting & Microwave Theory

SKILLS & QUALIFICATIONS

Six Sigma Green Belt

Data Mining, Pattern Recognition, Machine Learning, Project Management
C, C++, LabVIEW, Matlab, Visual Basic, SolidEdge, PSpice, LaTeX

SELECTED PUBLICATIONS

Lapira E, Brisset D, Davari H, Siegel D and Lee J. *Wind Turbine Performance Assessment Using Multi-Regime Modeling Approach*. Int Journal of Renewable Energy 45:86-95, 2012

Lapira E, Siegel D, AbuAli M and Lee J. *A Data-Driven Degradation Assessment for Robot Actuators Using Fixed Cycle Features Test (FCFT) Torque Data*. Int Journal of Manufacturing Technology, 2012 (Under Review)

Lee J and **Lapira E**. *TPM Gets Smart*. Manufacturing Engineering 146 6:70-75, 2012

PATENTS

Lapira E, Al-Atat H and Lee J. *T2T: Turbine-to-Turbine Prognostics Technique for Wind Farms*. UC Tech No. 109-093. Publication No. WO/2011/143531. November 17, 2011

PROFESSIONAL ASSOCIATIONS

IEEE, SME, ASME, IIE