



# Lei Yang

E-Mail: [yangl6@email.uc.edu](mailto:yangl6@email.uc.edu)

524 Riddle Rd, Apt #27  
Cincinnati, OH 45220

Cell (513)602-1266

**OBJECTIVE** Seeking a full time position in manufacturing industry to apply my knowledge in machine health monitoring.

## EDUCATION

- Present University of Cincinnati, **PhD Candidate, Mechanical Engineering** GPA: 3.9/4.0  
Research Assistant, Center for Intelligent Maintenance System (IMS)  
Advisor: Professor Jay Lee
- 05/2005 University of Michigan, Ann Arbor, **Master, Mechanical Engineering** GPA: 7.8/9.0  
Thesis Topic: Comparative Study of Prediction Tools in Manufacturing Process  
Advisor: Professor Jun Ni
- 06/2003 Shanghai Jiao Tong University, **Bachelor, Mechanical Engineering** GPA: 85.8/100  
Thesis Topic: Computational Fluid Dynamics Based Numerical Simulation on Parallel Computer Networks, Advisor: Professor Rongguo Huang

## Co-Op

- 05/2007 – 12/2007 **Fault Prediction.** Advanced Micro Devices  
Co-Op Engineer of Advanced Process Control (APC) group. Define fault prediction procedure, analyze equipment failure modes and make maintenance strategy, benchmark and implement algorithms for fault prediction.

## RESEARCH EXPERIENCE

- 06/2006 – 02/2007 **Sensor Map of CVD Process.** Samsung Electronics  
Use Bayesian Belief Network to identify key sensors of the CVD process and build a sensor map to indicate cause-and-effect relations among sensors for CVD diagnosis.
- 09/2006 – 04/2007 **Watchdog Agent Toolbox on LabVIEW.** National Instruments  
Training of how to use National Instruments Hardware at NI headquarter at Austin, and converting Watchdog Agent Algorithms in LabVIEW environment.
- 05/2006 – 12/2006 **Watchdog Agent Selection Tool by Using QFD & AHP Strategies.** IMS Research  
Quantitatively compare Watchdog Agent Toolbox based on Analytical Hierarchy Process (AHP), develop an improved selection tool by combining Quality Function Deployment (QFD) and AHP methodologies.
- 11/2005 – 04/2006 **Engine Prognostic Tool based on Bayesian Belief Network (BBN).** Komatsu Ltd.  
Data analysis and feature extraction for Komatsu database, identify significant factors of engine failure. Develop BBN prognostic model

08/2005 – **Quality Function Deployment (QFD) based Watchdog® Agent Selection Tool.** IMS Research  
01/2006 Literature survey of prognosis techniques for different machine components, construct correlation between Watchdog® algorithms and process properties. Develop selection matrix for bearing prognosis.

## **COURSE PROJECT**

03/2006 – **Plastic Deformation Modeling.** Solid Mechanics Modeling  
06/2006 Using Matlab to implement 3 algorithms of plastic deformation modeling, compare the performance and evaluate calculation efficiency of different method

03/2006 – **Support Vector Machine.** Kernel Methods for Machine Learning  
06/2006 Study machine learning algorithms and implement Support Vector Machine (SVM) based on Sequential Optimal Minimization

01/2005 – **Comparative Analysis of LASER Sheet Metal Weldments and Resistance Sim Weldme.** Finite  
05/2005 Element Method  
Mathematical modeling and comparative computer simulation of sheet-metal weldments from LASER welding and resistance sim-welding. Used commercial package softwares MSC Nastran, Altair Hypermesh

09/2004 – **Variation Simulation and Reduction of Walton Multi-Gripper.** Assembly Modeling  
12/2004 Product variation simulation and analysis, recommendations on design improvement and optimal assembly sequence.

## **AWARDS**

2003 **Excellent Graduate Student,** Shanghai Jiao Tong University

2005 – 2007 **University Graduate Scholarship,** University of Cincinnati

## **COMPUTER SKILLS**

**Environment** - Windows, Macintosh

**Office Related** - Excel, Word, PowerPoint, Access, Adobe Acrobat

**Scientific Programming** - Matlab, Mathematica and Maple

**Numerical Analysis** - Finite Element Analysis Related: Hypermesh, Ansys, Abaqus, Nastran

## **LANGUAGES**

**Chinese** - Native

**English** - Fluent

## **ACTIVITIES**

American Society of Mechanical Engineering

Society of Manufacturing Engineers

## **PERSONAL**

Responsible, hardworking.

Love tennis, traveling, watching football