

## Weihang Zhu

Associate Professor of Industrial Engineering  
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### Education

#### **2000 – 2003 North Carolina State University (NCSU), Raleigh, North Carolina, USA**

- Ph.D. Industrial and Systems Engineering
- Dissertation: “*Virtual Sculpting and Polyhedral Machining Planning System with Haptic Interface*”  
Advisor: Dr. Yuan-Shin Lee, ASME Fellow, IIE Fellow
- Minor: Computer Science

#### **1997 – 2000 Zhejiang University (ZJU), Hangzhou, China**

- M.S. Mechanical and Energy Engineering, 2000
- Thesis: “*Power Plant Online Performance Optimization and Production Information System in Intranet*”  
Advisors: Prof. Haoren Ren and Prof. Deren Shen

#### **1993 – 1997 Zhejiang University (ZJU), Hangzhou, China**

- B.S. Thermal Energy Engineering, 1997
- Thesis: “*Automated Power Plant Report Generation*”  
Advisor: Prof. Deren Shen and Prof. Jianhong Chen
- Advanced Class of Engineering Education (ACEE, an honor class for top Engineering students selected from freshmen of ZJU, currently part of Chu Kechen Honors College) 1994~1997;
- Advanced Class of Physics, 1994~1995;

### Professional Experience

**2011 – Present**                      **Lamar University**  
Associate Professor of Industrial Engineering

**2005 – 2011**                        **Lamar University**  
Assistant Professor of Industrial Engineering

- Founding the *Zhu Lab* of Industrial Engineering:
  - The lab is equipped with Dell Workstations with nVidia GPU, mobile workstation, Apple iMac, MacBook Pro, 13 Robix Rascal robots, 5 sets of PHANTOM Omni haptic devices, 5 sets of Novint Falcon haptic devices, 5 sets of TriLogi PLCs, Beagle Bone Black, a 3D scanner, an Alaris 3D printer, zSpace STEM station, RFID equipment, SolidWorks CAD/CAE package, PTC Creo CAD/CAM/CAE packages, Rhino3D, AnSys, Fluent, Matlab, R, Arena, *etc*;
- Supervising the lab technician/instructor and the *Manufacturing lab* of Industrial Engineering: CAD/CAM, lathes, CNC milling machines, robots, PLC automation, *etc.*;
- Directing the curriculum development of manufacturing program in the department;

**2004 – 2005**                      **Yantric In., Cambridge, MA**  
Research Engineer

- Touch-based virtual medical simulation research and development (NIST and DoD funded R&D): development of *Epidural Simulator* for Regional Anesthesia, which received critical acclaim at several conferences such as SIGGRAPH, MMVR and WorldHaptics;

**2004 – 2004**                      **SensAble Technologies Inc., Woburn, MA**  
Specialist Engineer

- Development of haptics Virtual Reality devices and applications, and OpenHaptics SDK: Phantom series of haptic device research and development, *OpenHaptics* SDK development;
- Strengthen the collaborative relationship between SensAble and universities, institutions, corporate research teams and other companies;
- Business negotiation and on-site visits with companies in Europe and Asia-Pacific areas;
- Attend conferences and expositions such as IEEE haptics symposium and EuroHaptics to keep abreast with the latest haptic research; demonstrate Phantom Haptic devices and application;
- Train international engineers on haptic software and hardware in Europe and Asia-Pacific areas;

**2003 – 2003**                      **Bosch-Siemens Home Appliances Corporation, New Bern, NC**  
Industrial Engineering Intern

**2000 – 2003**                      **North Carolina State University, Raleigh, NC**  
Graduate Teaching Assistant

Graduate Research Assistant

- CAD/CAM/CNC algorithms and software development (National Science Foundation and Army Research Office funded research): 3-axis and 5-axis polyhedral surface machining, high performance machining, feedrate control, NC simulation and verification, make experiments on CNC (3-axis Cincinnati Milacron and 5-axis Shoda machine), use Solidworks, Surfcam, Unigraphics and Rhino 3D, *etc*;
- Computer haptics and graphics: construct haptic device controller, develop haptic collision detection and response algorithm, explore haptic applications in Virtual Reality and CAD/CAM;

**2000 – 2000**                      **China Telecom, Hangzhou, China**  
Engineer

- Network maintenance and website maintenance;

**1997 – 2000**                      **Zhejiang University, Hangzhou, China**  
Graduate Research Assistant

- Optimization algorithms and software development: economy analysis, production performance evaluation and optimization, and its software development;
- Power plant Intranet implementation: deploy process monitoring and control hardware; deploy computer network; collect and process power plant process information (boiler, turbine, generator, pump, *etc*), integrate power plant production and office automation in power plant Intranet, help in maintaining database (MS SQL Server) and website (IIS & Exchange Server);
- On-site experience in power plants: collaborate with and work in Zhejiang Meixi power plant, Zhejiang Wenzhou power plant, Zhejiang Jiaxin power plant, Zhejiang Jinhua power plant and Guangdong Shajiao power plant;

**1996 – 1997**                      **Zhejiang University, Hangzhou, China**  
Undergraduate Research Assistant

## Research Interests

- Computer Haptics and Computer-aided Design and Manufacturing
  - Haptics, virtual reality and augmented reality
  - Medical simulation
  - BCI- and haptic-based rehabilitation
  - Haptics for the visually impaired
  - Computational geometry
  - Computer-aided design and manufacturing
- Modeling, Simulation and Computational Optimization
  - Discrete event simulation
  - Agent-based modeling and simulation
  - System dynamics modeling
  - Multi-method modeling and simulation for port management
  - Metaheuristics algorithms and applications
  - Multi-objective optimization
  - GPU and high performance computing
  - Simulation for Port Management and Logistics
- Engineering Education
  - Haptic-augmented learning for dynamics
  - Learning with mobile apps
  - Improve engineering education with career mentoring, outreach and advisement, professional societies and engineering learning community
  - Research experience of K-12 students and teachers, undergraduates and graduates
- Mariner and Offshore Safety
  - Mariner near miss and injury databases
  - Mariner safety culture and safety leading indicators
  - Offshore oil drilling platform safety
  - ASTM Standard for Injury and Illness Data Collection and Reporting and the ASTM Standard for Near Miss Collection and Reporting
- Others
  - Lean manufacturing in shipbuilding
  - Computational biology
  - Production planning and scheduling
  - Supply chain

## Honors & Awards

- Lamar University Distinguished Faculty Fellowship - Teaching, 2015 – 2018: one of the three awards to faculty of any ranks
- Lamar University Merit Award, 2009: one of the four awards to junior faculty
- Fellowship from NSF Summer Institute on Energy Manufacturing, Northwestern University, June - July 2010
- Fellowship from NSF Summer Institute on Cancer Nano-technology, Houston, June 2010
- Fellowship from NSF Summer Institute on Nanomanufacturing, Northwestern University, June 2008
- Guang Hua Scholarship for Zhejiang University Graduate Students, 1998

## Weihsang Zhu

- Privilege to enter Graduate School of Zhejiang University, exempted from the admission test, 1997
- Excellent Graduate Student of Zhejiang University and Zhejiang Province, 1997
- Zhejiang University Scholarship: the only student in the class that received First Prize every year 1994~1997
- China National Electricity Education Foundation, “New Star” Award, 1996

### Graduate Students

#### Doctor of Philosophy Committee:

- Xiang Li, Doctoral of Philosophy in Chemical Engineering, Lamar University, graduated in 2011;
- Kailiang Zheng, Doctoral of Philosophy in Chemical Engineering, Lamar University, graduated in 2012;
- Preeti Gangadharan, Doctoral of Philosophy in Chemical Engineering, Lamar University, graduated in 2013;

#### Doctor of Engineering Advisor:

- Ganesh Mudunuri, Doctor of Industrial Engineering, Lamar University, graduated in F2013;
- Ezra Wari, Doctoral Student of Industrial Engineering, Lamar University, graduated in F2015;
- Alem Demissie, Doctoral Student of Industrial Engineering, Lamar University, graduated in F2015;
- Arash Abedi, Doctoral Student of Industrial Engineering, Lamar University, since Sept 2014;
- Nidal Al-Sayyed, Doctoral Student of Industrial Engineering, Lamar University, since Jan 2015;
- Ankit Iyer, Doctoral Student of Industrial Engineering, Lamar University, since Jan 2015;
- Mohammad Altayeb, Doctoral Student of Industrial Engineering, Lamar University, since Jan 2016;

#### Doctor of Engineering Committee:

- Pugalenthi Pandian, Doctor of Industrial Engineering, Lamar University, graduated in 2011;
- B. Gangineni, Doctor of Industrial Engineering, Lamar University, graduated in 2012;
- Pridhvi Dandu, Doctor of Mechanical Engineering, Lamar University, graduated in 2012;
- Vishal Nagaraj, Doctor of Mechanical Engineering, Lamar University, graduated in 2012;
- Pavan Mhasavekar, Doctor of Industrial Engineering, Lamar University, graduated in 2013;
- Richshalla Papillion, Doctor of Industrial Engineering, Lamar University, graduated in 2014;
- Fatemeh Hosseinzadehdastak, Doctor of Industrial Engineering, Lamar University, graduated in 2014;
- Ravinder Singh, Doctor Student of Chemical Engineering, Lamar University, since 2012;
- Sujay Mahale, Doctoral Student of Industrial Engineering, Lamar University, since 2012;
- Ammar Aldubaikhil, Doctoral Student of Industrial Engineering, Lamar University, since 2012;

#### Master Thesis Advisor:

- Bhavan Parikh, Master of Mechanical Engineering, Lamar University, graduated in August 2008;
- Anjali Mishra, Master of Industrial Engineering, Lamar University, graduated in Dec 2009;
- Qi Xie, Master of Industrial Engineering, Lamar University, graduated in May 2013;
- Md A. Islam, Master of Mechanical Engineering, Lamar University, graduated in August 2013;

#### Master Thesis Committee:

- Pavan Mhasavekar, MES of Industrial Engineering, Lamar University, graduated in Dec 2008;
- Maheshwaran Ramaligan, MES of Industrial Engineering, Lamar University, graduated in Dec 2008;
- Samuel Choudary, MES in Electrical Engineering, Lamar University, graduated in Dec 2011;
- Sriram Pydi, MES of Industrial Engineering, Lamar University, graduated in Dec 2011;
- Kallul Paul, MES of Industrial Engineering, Lamar University, graduated in Dec 2012;

#### Graduation Project Committee:

- Tirumalesh Chintamani, Master of Computer Science, Lamar University, graduated in Dec 2006;

#### Non-thesis Research Assistants:

- Sudarsan Raghavan, Master of Industrial Engineering, Lamar University, Jan ~ Dec 2006;

- Satish Masilamani, Master of Industrial Engineering, Lamar University, Jan ~ Dec 2006;

#### Undergraduate Research Students

##### Undergraduate Research Assistants:

- Jason Singleton, Civil Engineering, Lamar University, Spring 2009;
- Brent Thrasher, Industrial Engineering, Lamar University, Spring 2009;

##### Senior Design Projects:

- Hani Almufti, Brent Thrasher, Kody Duplechin, Fall 2009 to Spring 2010;
- R. Caleb Lackey, Aaron Meadows; Karla Villa, Fall 2010 to Spring 2011;
- Michael Guillory, Miguel Magallon, Tomas Rueda, Fall 2011 to Spring 2012;
- Andres Medina, Casey Smith, Ahsan Tariq, Joshua Ware, Fall 2012 to Spring 2013;
- Jason Casbeer, Justin Jurek, Nate Cox, Fall 2013 to Spring 2014;
- Kylie Robinette, VeWiser Turner, Fall 2014 to Spring 2015;
- David Durr, Fall 2015 to Spring 2016; Best senior design award in IE in 2016;

#### Proposals Funded (8 current grants)

- Title: “Simulation-based Decision Support System for Port Management: Operations, Expansion and Disaster Recovery Planning”  
Source: Center for Advances in Port Management, Lamar University  
Amount: \$ 25,000  
Duration: 5/1/2016 – 5/31/2017  
PI: Weihang Zhu
- Title: “Industrial and Mechanical Engineering Scholars with Scholarships, Career Mentoring, Outreach and Advisement, Professional Societies and Engineering Learning Community (SCOPE)”  
Source: National Science Foundation  
Amount: \$ 625,300  
Duration: 9/1/2015 – 8/31/2020  
PI: Weihang Zhu Co-PIs: James Curry, Brian Craig, Jiang Zhou, Hsing-wei Chu
- Title: “Instruction Innovation Grant for Distinguished Faculty Fellow”  
Source: Lamar University  
Amount: \$ 5,000  
Duration: 9/1/2015 – 8/31/2018  
PI: Weihang Zhu
- Title: “Distinguished Faculty Fellow – Teaching”  
Source: Lamar University  
Amount: \$ 30,000  
Duration: 9/1/2015 – 8/31/2018  
PI: Weihang Zhu
- Title: “Presidential Faculty Fellowship for Undergraduate Teaching Research”  
Source: Lamar University  
Amount: \$ 15,000  
Duration: 9/1/2015 – 8/31/2016  
PI: Jiang Zhou Co-PI: Ken Aung, Weihang Zhu, Xinyu Liu

Weihang Zhu

- Title: “Development of the ASTM Standard for Injury and Illness Data Collection and Reporting and the ASTM Standard for Near Miss Collection and Reporting”  
Source: Ship Operations Cooperative Program (SOCP), Woodinville, Washington  
Amount: \$ 50,000  
Duration: 9/1/2014 – present  
PI: Brian Craig Co-PIs: James Curry, Weihang Zhu
- Title: “Multimedia Learning of Engineering Economics with Role Play Gaming on a Mobile Platform”  
Source: National Science Foundation  
Amount: \$ 191,505  
Duration: 5/15/2012 – 4/30/2016  
PI: Alberto Marquez Co-PI: Weihang Zhu, Julia Yoo
- Title: “ABS Safety Culture”  
Source: American Bureau of Shipping  
Amount: \$ 20,000  
Duration: 6/1/2012 – 12/31/2012  
PI: Brian Craig Co-PI: James Curry, Weihang Zhu
- Title: “Mariner Prototype Leading Indicators Tool”  
Source: American Bureau of Shipping  
Amount: \$ 437,099  
Duration: 9/1/2010 – present (renewed each year since 2010)  
PI: Brian Craig Co-PI: James Curry, Weihang Zhu
- Title: “Mariner Personnel Safety”  
Source: American Bureau of Shipping  
Amount: \$ 469,402  
Duration: 9/1/2009 – present (renewed each year since 2009)  
PI: Brian Craig Co-PIs: James Curry, Weihang Zhu
- Title: “Agent-based Modeling and Simulation for Hazardous Waste Reverse Logistics”  
Source: Texas Hazardous Waste Research Center  
Amount: \$ 5,000  
Duration: 9/1/2008 – 8/31/2009  
PI: Weihang Zhu Co-PIs: James Curry, Helen Lou
- Title: “Wood Procurement Optimization for MeadWestvaco”  
Source: MeadWestvaco  
Amount: \$ 10,000  
Duration: 9/1/2008 – 8/31/2009  
PI: James Curry Co-PIs: Weihang Zhu, Alberto Marquez
- Title: “A Study of the Impact of Haptic-augmented Learning Tools on Dynamics Course”  
Source: National Science Foundation  
Amount: \$ 88,323

Duration: 4/1/2008 – 3/31/2010  
PI: Weihang Zhu

Co-PIs: Jiang Zhou, Ken Aung, Malur Srinivasan

- Title: “Online Teaching Grant for Manufacturing Processes”  
Source: Lamar University  
Amount: \$ 3,000  
Duration: 9/1/2011 – 12/31/2012  
PI: Weihang Zhu
  
- Title: “Research Enhancement Grant”  
Source: Lamar University  
Amount: \$ 5,000  
Duration: 9/1/2010 – 8/31/2011  
PI: Weihang Zhu
  
- Title: “Research Enhancement Grant”  
Source: Lamar University  
Amount: \$ 5,000  
Duration: 9/1/2009 – 8/31/2010  
PI: Weihang Zhu
  
- Title: “Research Enhancement Grant”  
Source: Lamar University  
Amount: \$ 5,000  
Duration: 12/1/2006 – 8/31/2007  
PI: Weihang Zhu
  
- Title: “Research Enhancement Grant”  
Source: Lamar University  
Amount: \$ 5,000  
Duration: 12/1/2005 – 8/31/2006  
PI: Weihang Zhu

### Journal Publications

1. Ezra Wari, **Weihang Zhu**, A Survey on metaheuristic applications in food processing optimization, *Applied Soft Computing*, doi: 10.1016/j.asoc.2016.04.034
2. Xinyu Liu, **Weihang Zhu**, Development of a Fiber Optical Occlusion Based Automatic Tool Setter for Micro Milling Machine, *Robotics and Computer Integrated Manufacturing*, accepted
3. Ge Jiang, Dingzhong Feng, **Weihang Zhu**, Towards Efficient Shipbuilding System Based on the Lean Production Methodology – A Case Study, *Journal of Ship Production and Design*, accepted
4. **Weihang Zhu**, Alberto Marquez, Julia Yoo, “Engineering Economics Jeopardy!” Mobile App for University Students, *Journal of Engineering Economist*, 2015, DOI:10.1080/0013791X.2015.1067343
5. Kevin McSweeney, Brian Craig, James Curry, **Weihang Zhu**, Are Mariner Near Misses Influencing Design?, Transportation Research Record No. 2326: *Journal of the Transportation Research Board* 2013

6. **Weihang Zhu**, Ashraf Yaseen, Yaohang Li, DEMCMC-GPU: An Efficient Multi-Objective Optimization Method with GPU Acceleration on the Fermi Architecture, *Journal of New Generation Computing* 29 (2011) 163-184;
7. **Weihang Zhu**, Massively Parallel Differential Evolution – Pattern Search Optimization with Graphics Hardware Acceleration: an Investigation on Bound Constrained Optimization Problems, *Journal of Global Optimization*, doi: 10.1007/s10898-010-9590-0, (2011) 50:417-437;
8. **Weihang Zhu**, Nonlinear Optimization with a Massively Parallel Evolution Strategy Algorithm on Graphics Hardware, *Applied Soft Computing Journal*, doi: 10.1016/j.asoc.2010.05.020;
9. Carol Schulte, James Curry, Victor Zaloom, **Weihang Zhu**, Helen Lou, Alberto Marquez, Scheduling Hazardous Waste Incinerators Using a SA-LP Heuristic, *Journal of Environmental Engineering Science*, July 2010, 27(7): 569-575. doi:10.1089/ees.2009.0380;
10. **Weihang Zhu**, J. Curry, A. Marquez, SIMD Tabu Search for Quadratic Assignment Problem with Graphics Hardware Acceleration, *International Journal of Production Research*, Volume 48, Issue 4, 2010, 1035 - 1047
11. Wei Li, H. Peng, **Weihang Zhu**, D. Sheng, J. Chen, An Immune-Tabu Hybrid Algorithm for Thermal Unit Commitment Problem in Power Plant Optimization, *Journal of Zhejiang University-Science A*, Issue 4, 2009
12. **Weihang Zhu**, J. Curry, A. Marquez, GPU-accelerated SIMT Tabu Search for the Quadratic Assignment Problem, *Transactions of SME/NAMRC 2009*
13. **Weihang Zhu**, A Methodology for Building up an Infrastructure for Haptically Enhanced Computer-Aided Design Systems, *Transactions of the ASME: Journal of Computing and Information Science in Engineering*, Volume 8, Issue 4, 2008
14. Yongfu Ren, **Weihang Zhu**, Yuan-Shin Lee, Feature Conservation Conversion of Tri-dexel Volume Models to Polyhedral Surface Models for Product Prototyping, *Computer-Aided Design and Application*, Vol. 5, No. 6, 932-941, 2008
15. Yongfu Ren, **Weihang Zhu** and Yuan-Shin Lee, Tri-dexel Modeling and Analysis for Virtual Prototyping, *Transactions of SME/NAMRC 2008*
16. **Weihang Zhu**, Yuan-Shin Lee, An Infrastructure Towards Haptic Virtual Assembly with Native 3D Models in Mainstream CAD Systems, *Transactions of SME/NAMRC 2007*
17. Yongfu Ren, **Weihang Zhu** and Yuan-Shin Lee, Pencil-cut Machining with Material Side Tracing and Curve Refinement for Complex Polyhedral Models, *Transactions of SME/NAMRC 2006*
18. **Weihang Zhu**, Yuan-Shin Lee, A Marching Algorithm of Constructing Polyhedral Models from Dixel Models for Haptic Virtual Sculpting, *Robotics and Computer-Integrated Manufacturing*, Vol 21, Issue 1, Page 19-36, 2005
19. Yongfu Ren, **Weihang Zhu**, Yuan-Shin Lee, Material Side Tracing and Curve Refinement for Pencil-cut Machining of Complex Polyhedral Models, *Computer Aided Design*, Vol. 37, Issue 10, 2005, Pages 1015-1026
20. **Weihang Zhu**, Yuan-Shin Lee, Five-axis Pencil-Cut Machining Planning and Virtual Prototyping with a 5-DOF Haptic Interface, *Computer-Aided Design*, Vol. 36, Issue 13, 2004, pages 1295-1307
21. **Weihang Zhu**, Yuan-Shin Lee, Dixel-Based Force-Torque Rendering and Volume Updating for 5-DOF Haptic Product Prototyping and Virtual Sculpting, *Computer in Industry*, Vol. 55, Issue 2, 2004, pages 125-145
22. Deren Sheng, Haoren Ren, J. Chen, W. Li, **Weihang Zhu**, Optimization of Main Steam Pressure of Steam Turbine Unit under Cycling Loading, *Power Engineering*, (in Chinese), Vol 20, No. 5, 2000
23. **Weihang Zhu**, Haoren Ren, Deren Sheng *etc*, Power Plant Management Information System for Production Based on MS SQL Server, *Zhejiang Electric Power*, (in Chinese), Vol 19, No. 1, 2000
24. Deren Sheng, **Weihang Zhu**, *etc*, Power Plant Reporting By OLE, *Thermal Power Generation*, (in Chinese), No.173, P35-38, 1999
25. **Weihang Zhu**, Haoren Ren, W. Li, D. Sheng, J. Chen, J. Li, X. Lu, The Analysis of Operation Index for the Power Unit under Different Loads, *Transactions of the Chinese Society for Electrical Engineering*, (in Chinese), Vol.19, No.9, P50-53, 1999



Conference Papers and Presentations

1. Alem Demissie, **Weihang Zhu**, Multi-objective Optimization of Natural Gas Pipeline Operation, submitted to Industrial and System Engineering Research Conference, May 21 – 24, 2016, Anaheim, CA, USA
2. Ezra Wari, **Weihang Zhu**, Energy-efficient Scheduling for an Ice Cream Processing Facility, submitted to Industrial and System Engineering Research Conference, May 21 – 24, 2016, Anaheim, CA, USA
3. **Weihang Zhu**, Ge Jiang, Online Simulation Course and “Arena Video Tutor” Mobile App Development, submitted to Industrial and System Engineering Research Conference, May 21 – 24, 2016, Anaheim, CA, USA
4. Nidal Al Sayyed, **Weihang Zhu**, A Natural Capital Based Sustainable Funding Model for the US, Industrial and System Engineering Research Conference, May 21 – 24, 2016, Anaheim, CA, USA
5. James Curry, **Weihang Zhu**, Brian Craig, An Online 2+2 Bachelor’s Degree Program Track in Industrial Engineering at Lamar University, submitted to American Society of Engineering Education annual conference, June 2016, New Orleans, LA, USA
6. Huiling Chen, Liguu Shuai, **Weihang Zhu**, Preliminary study on SED distribution of tactile sensation in fingertip, 2016 3rd International Conference on Mechanical, Electronics and Computer Engineering (CMECE 2016), New York, January 7-9, 2016
7. **Weihang Zhu**, Alberto Marquez, Julia Yoo, Development of “Engineering Economics Career” Mobile App, *Proceedings of the ASEE annual conference 2015*, June 2015, Seattle, Washington, USA
8. Ge Jiang, Dingzhong Feng, **Weihang Zhu**, Lean Shipbuilding for Project-based Manufacturing, *Proceedings of the 2015 Industrial and Systems Engineering Research Conference*, May 2015, Nashville, TN, USA
9. Ezra Wari, **Weihang Zhu**, Xinyu Liu, Genetic Algorithms Applications in the Food Process Industry, *Proceedings of the 2015 Industrial and Systems Engineering Research Conference*, May 2015, Nashville, TN, USA
10. Alem Demissie, **Weihang Zhu**, A Survey on Gas Pipelines Operation and Design Optimization, *Proceedings of the 2015 Industrial and Systems Engineering Research Conference*, May 2015, Nashville, TN, USA
11. Alem Demissie, **Weihang Zhu**, Daniel Kitaw, Ato Amare Matebu, Quality Assessment on the Garment Enterprises in Ethiopia, *Proceedings of the 2015 Industrial and Systems Engineering Research Conference*, May 2015, Nashville, TN, USA
12. Liang Diao, Liguu Shuai, Huiling Chen and **Weihang Zhu**, Improvement of ELM algorithm for multi-object identification in gesture interaction, *The International Conference on Extreme Learning Machines (ELM 2015)*, December 2015, Hangzhou, China
13. **Weihang Zhu**, Alberto Marquez, Julia Yoo, “Engineering Economics Jeopardy!” Mobile App Development Process and Student Satisfaction, *Proceedings of the ASEE annual conference 2014*, Indianapolis, IN, USA
14. Brian Craig, Richshalla Papallion, James Curry, **Weihang Zhu**, Maritime Safety Reporting, *Offshore Technology Conference 2014*, Houston, TX, USA
15. Xinyu Liu, **Weihang Zhu**, Automated Toolsetter for Micromachine, *FAIM Conference 2014*, San Antonio, TX, USA
16. James Curry, **Weihang Zhu**, Brian Craig, Lonnie Turpin Jr., Majed Al-Bokhari, Pavan Mhasavekar, Generating Reports with Natural Language Generation, *Winter Simulation Conference 2013*, Washington DC, USA
17. Shreyas Shashidhara, Xinyu Liu, **Weihang Zhu**, James Curry, Victor Zaloom, Experimental Investigation of the Tool Wear and Tool Life in Micro Hard Milling, *American Society of Mechanical Engineers Annual Conference (IMECE-65607)*, November 2013, San Diego, USA

18. **Weihang Zhu**, Jiang Zhou, Md. A. Islam, Md. Shufean, Xinyu Liu, Development of a Mobile App for Learning System Dynamics, *American Society of Mechanical Engineers Annual Conference IMECE 2013*, San Diego, CA, USA
19. **Weihang Zhu**, Alberto Marquez, Julia Yoo, Development of Mobile App for Engineering Economics, *Proceedings of the ASEE annual conference 2013*, Atlanta, GA, USA
20. Xinyu Liu, B. Gangineni, **Weihang Zhu**, Victor Zaloom, Finite Element Analysis of Micro-grinding Process, *Proceedings of the Industrial Engineering Research Conference*, May 2012, Orlando, FL, USA
21. Xinyu Liu, **Weihang Zhu**, Victor Zaloom, Multi-objective Optimization for the Micro-milling Process with Adaptive Data Modeling, *Proceedings of the ASME 2011 International Manufacturing Science and Engineering Conference MSEC2011* June 13-17, 2011, Corvallis, Oregon, USA
22. Wen-Chyuan Chiang, Gangshu Cai, Xiaojing Xu, Ganesh Mudunuri and **Weihang Zhu**, Two-Stage Tabu - Particle Swarm Algorithms for the Facility Layout Problem with Size Constraints, *IEEE CEC 2011*, June 5~8, 2011, New Orleans, LA, USA
23. **Weihang Zhu**, Kendrick Aung, Jiang Zhou, Design Improvement and Analysis on 3D Haptic-augmented Learning Tools for Dynamics Course, *Proceedings of the American Society of Engineering Education 2010 annual conference*, Louisville, KY, USA, June 2010;
24. **Weihang Zhu**, James Curry, Massively Parallel Genetic Algorithm for Nonlinear Optimization with GPU Computing, *the 13th AIAA/ISSMO Multidisciplinary Analysis Optimization (MAO) Conference*, 13-15 September 2010, Fort Worth, Texas, co-located with the 10th AIAA Aviation Technology, Integration, and Operations (ATIO) Conference;
25. **Weihang Zhu**, Parallel Biogeography -based Optimization with GPU Acceleration for Nonlinear Optimization, *ASME IDETC/CIE Conference*, August 15- 18, 2010, Montreal, Canada;
26. **Weihang Zhu**, James Curry, Anjali Mishra, Alberto Marquez, Victor Zaloom, An Experimental Study of GPU-accelerated Ant Colony Optimization for Sequence Dependent Parallel Machine Scheduling, *Proceedings of the Industrial Engineering Research Conference*, Cancun, Mexico, June 5-9, 2010
27. James Curry, Alberto Marquez, **Weihang Zhu**, Setting Gate Prices with Intermediate Actors and Transportation Costs, *Proceedings of the Industrial Engineering Research Conference*, Cancun, Mexico, June 5-9, 2010
28. **Weihang Zhu**, Yaohang Li, GPU-Accelerated Differential Evolutionary Markov Chain Monte Carlo Method for Multi-Objective Optimization over Continuous Space, *2nd Workshop on Bio-Inspired Algorithms for Distributed Systems*, BADS 2010, held in conjunction with 7th International Conference on Autonomic Computing (ICAC 2010), Washington DC, USA, June 7-11, 2010.
29. Yaohang Li, **Weihang Zhu**, GPU-accelerated Multi-scoring Function Protein Loop Structure Sampling, *Ninth IEEE International Workshop on High Performance Computational Biology*, Atlanta, GA, April 19, 2010, held in conjunction with International Parallel & Distributed Processing Symposium (IPDPS).
30. Hani Almufti, Kody Duplechin, Brent Trasher, **Weihang Zhu**, A Simulation Study of Medical Office Practice, *IIE Regional Conference 2010*, held at St. Mary's University, San Antonio, TX, Feb 26~27, 2010 (Undergraduate student research paper).
31. **Weihang Zhu**, James Curry, Anjali Mishra, Victor Zaloom, Sequence Dependent Parallel Machine Scheduling On a GPU Platform Using Ant Colony Optimization, *Proceedings of ASME Manufacturing Science and Engineering Conference*, Oct 4~7, 2009, West Lafayette, IN, USA
32. **Weihang Zhu**, James Curry, Parallel Ant Colony for Nonlinear Function Optimization with Graphics Hardware Acceleration, *Proceedings of IEEE System, Man and Cybernetics Conference*, Oct 11~14, 2009, San Antonio, TX, USA
33. **Weihang Zhu**, Parallel Population Based Incremental Learning with GPU Acceleration for Nonlinear Optimization, *Proceedings of ASME IDETC/CIE Design Automation Conference*, Aug 30 ~ Sept 2, 2009, San Diego, CA, USA
34. **Weihang Zhu**, GPU-based Parallel Differential Evolution with Local Pattern Search on Function Optimization, *Proceedings of Industrial Engineering Research Conference*, May 30 ~ June 3, 2009, Miami, FL, USA

35. **Weihang Zhu**, Kendrick Aung, Jiang Zhou, Development and Analysis of 3D Haptic-augmented Learning Tools for Dynamics Course, *Proceedings of American Society of Engineering Education 2009 annual conference*, June 14 ~ 17, Austin, TX, USA
36. **Weihang Zhu**, A Study of Parallel Evolution Strategy – Pattern Search on a GPU Computing Platform, *Proceedings of ACM SIGEVO Genetic and Evolutionary Computation Summit Conference*, Shanghai, China, June 12 ~ 14, 2009
37. **Weihang Zhu**, J. Curry, Multi-walk Parallel Pattern Search on a GPU computing Platform, *Proceedings of the IEEE International Conference on Computational Science*, Baton Rouge, Louisiana, USA, May 25 ~ 27, 2009
38. **Weihang Zhu**, J. Curry, Particle Swarm with Graphics Hardware Acceleration and Local Pattern Search on Bound Constrained Optimization Problems, *IEEE Symposiums Series on Computational Intelligence*, 2009, Nashville, TN, USA, March 30 ~ April 2, 2009
39. **Weihang Zhu**, Kendrick Aung, Bhavan Parikh, Jiang Zhou, Malur Srinivasan, Thomas Matthews, A Study of the Impact of Haptic-augmented Learning Tools on Dynamics Course, *Proceedings of ASME Annual Conference*, IMECE 2008-66339, Boston, MA, USA, November 2008
40. Jiang Zhou, Paul Corder, **Weihang Zhu**, Kendrick Aung, Direct Assessment of Course Outcomes Part II: Results and Continuing Improvement for Mechanical Engineering Courses, *Proceedings of ASME Annual Conference*, IMECE 2008-67421, Boston, MA, USA
41. **Weihang Zhu**, Haptic Guided Rigid Body Dynamic Study for Virtual Assembly in Mainstream CAD Systems, *Proceedings of ASME IMECE*, Seattle, WA, USA, IMECE2007-41513, November 2007
42. Xianchang Li, **Weihang Zhu**, Paul Corder, Numerical Study on Heat Transfer of Inclined Jet Impingement with Explicit Crossflow, *Proceedings of ASME-JSME Thermal Engineering Summer Heat Transfer Conference*, July 8-12, 2007, Vancouver, British Columbia, Canada, HT2007-32478
43. **Weihang Zhu**, Yuan-Shin Lee, Haptic Manipulation of Native 3D CAD Models in Mainstream CAD/CAM Systems, *Proceedings of ASME IMECE 2006*
44. **Weihang Zhu**, Yuan-Shin Lee, Constructing Polyhedral Models from Dixel Models with Marching Algorithm for Haptic Virtual Sculpting, *Proceedings of ASME MSEC 2006*
45. Brandon Itkowitz, Josh Handley, **Weihang Zhu**, OpenHaptics: Add 3D Navigation and Haptics to Graphics Application, *Proceedings of World Haptics 2005*, Pisa, Italy, March 2005
46. **Weihang Zhu**, Yuan-Shin Lee, Virtual Sculpting and Multi-axis Polyhedral Machining Planning Methodology with 5-DOF Haptic Interface, *Proceedings of EuroHaptics 2004*, Munich, Germany
47. **Weihang Zhu**, Yuan-Shin Lee, Product Prototyping and Manufacturing Planning with 5-DOF Haptic Sculpting and Dixel Volume Updating, *Proceedings of IEEE Haptics Symposium 2004*, Chicago, USA
48. **Weihang Zhu**, Yuan-Shin Lee, Haptic Sculpting and Machining Planning with 5-DOF Haptic Interface for Virtual Prototyping and Manufacturing, *Proceedings of the International Conference on Advanced Research in Virtual and Rapid Prototyping*, Leiria, Portugal, Oct 2003
49. **Weihang Zhu**, Yuan-Shin Lee, Haptic Sculpting and Pencil-cut Planning in Virtual Prototyping and Manufacturing, *Proceedings of The ASME IMECE (International Mechanical Engineering Congress and Exposition)*, Washington DC, USA, Nov, 2003, IMECE2003-42489

Abstract, Presentation Only or Poster Only

1. Zhicheng Zhu, Yisha Xiang, **Weihang Zhu**, Brian Craig, Preventive Maintenance for Port Equipment with Schedule Constraints, Industrial and System Engineering Research Conference, May 21 – 24, 2016, Anaheim, CA, USA
2. Ezra Wari, **Weihang Zhu**, Multi-week Scheduling for an Ice Cream Processing Facility, Industrial and System Engineering Research Conference, May 21 – 24, 2016, Anaheim, CA, USA
3. **Weihang Zhu**, SCOPE Scholarship for Industrial Engineering and Mechanical Engineering, the 2016 Lamar University Educational Conference, Beaumont, Texas, March, 2016;
4. **Weihang Zhu**, “Engineering Economics Career” Mobile App for Assisting Teaching Engineering Economics Course, the 2016 Lamar University Educational Conference, Beaumont, Texas, March, 2016;
5. Kevin McSweeney, Brian Craig, James Curry, **Weihang Zhu**, Are Near Misses Impacting Safety Decision? (Presentation Only), *Transportation Research Board of the National Academies*, Washington, D.C., 2013

6. James Curry, **Weihang Zhu**, Brian Craig, Victor Zaloom, Development of a Web-based Safety Survey Data Analysis System for the Maritime Industry (Presentation only), *Proceedings of the Industrial Engineering Research Conference*, May 2012, Orlando, FL, USA;
7. **Weihang Zhu**, Haptic-augmented Learning Tools for Dynamics, the 2011 Lamar University Educational Conference, Beaumont, Texas, March 24 - 25, 2011;
8. **Weihang Zhu**, Kendrick Aung, Jiang Zhou, Haptic-augmented Learning Tools for Dynamics (invited only, poster), the 2011 CCLI/TUES PI Conference in Washington, D.C. on January 26 - 28, 2011;
9. **Weihang Zhu**, James Curry, Victor Zaloom, A Framework of GPU-accelerated Evolutionary Algorithms for Global Optimization, *INFORMS 2010*, Austin, TX (Presentation Only);

### Other Presentations

1. Introduction to Computer-aided Design for 3D Printing, Invited Talk at Mega Mobile Mania Conference at Education Service Center for Region 5, Beaumont, Texas, Oct 20<sup>th</sup>, 2015
2. Computational Optimization with GPU Computing, Department of Industrial Engineering, University of Houston, Houston, TX, USA, Oct 2010;
3. Computational Optimization with GPU Computing, Department of Computer Science, Lamar University, Beaumont, TX, USA, Nov 2009;
4. Haptics technologies and applications, The College of Engineering Advisory Council Conference, Lamar University, Beaumont, TX, USA, Mar 2006
5. Haptics technologies, The Instrumentation, Systems and Automation Society, Beaumont, TX, USA, Sept 2005
6. OpenHaptics Chinese Training, Shanghai, China, June 2004
7. OpenHaptics Japanese Training, Tokyo, Japan, June 2004
8. OpenHaptics European Training, Munich, Germany, June 2004
9. Haptics technologies and applications, Southern New Hampshire University, Apr 2004
10. Haptics technologies and Dental Simulation, School of Dentistry, Loma Linda University, Feb 2004

### Courses Taught

Course	Semester	Title	Enroll	Credit
ENGR 5301	F2005	Haptics in Manufacturing	9	27
INEN 4300	F2005	Quality Improvement	19	57
ENGR 5312	F2005	Quality Improvement	12	36
INEN 3322	S2006	Engineering Material and Processes	12	24
INEN 3322	S2006	Engineering Material and Processes Labs	12	12
INEN 4345	S2006	Computer-Integrated Manufacturing	10	30
ENGR 5345	S2006	Computer-Integrated Manufacturing	14	42
ENGR 4301	S2006	Automated System Engineering	1	3
ENGR 5301	S2006	Automated System Engineering	16	48
ENGR 5301	SI2006	Haptics in Manufacturing	9	27
ENGR 4301	SI2006	Engineering Database Design	1	3
ENGR 5301	SI2006	Engineering Database Design	6	18
ENGR 5301	SII2006	Advanced Pro/Manufacturing	5	15
ENGR 5301	F2006	Haptics in Manufacturing	7	21
INEN 4300	F2006	Quality Improvement	26	78
ENGR 5312	F2006	Quality Improvement	12	36

INEN 3322	F2006	Engineering Material and Processes	32	64
INEN 3322	F2006	Engineering Material and Processes Labs	32	32
INEN 3322	S2007	Engineering Material and Processes	18	36
INEN 3322	S2007	Engineering Material and Processes Labs	18	18
INEN 4345	S2007	Computer-Integrated Manufacturing	8	24
INEN 5345	S2007	Computer-Integrated Manufacturing	11	33
INEN 4396	SI2007	Automated System Engineering	2	6
INEN 5394	SI2007	Engineering Database Design	7	21
INEN 5396	SI2007	Automated System Engineering	6	18
INEN 3322	F2007	Engineering Material and Processes	38	76
INEN 3322	F2007	Engineering Material and Processes Labs	20	20
ENGR 5101	F2007	ST: Research Seminar	9	9
ENGR 5301	F2007	ST: Computational Methods	5	15
ENGR 5392	F2007	Computer Haptics	5	15
ENGR 5301	S2008	ST: Robotics	7	21
INEN 4345	S2008	Computer-Integrated Manufacturing	10	30
INEN 5345	S2008	Computer-Integrated Manufacturing	6	18
ENGR 5101	F2008	ST: Research Seminar	6	6
ENGR 5301	F2008	ST: Computational Methods	6	18
INEN 3322	F2008	Engineering Material and Processes	38	76
INEN 3322	F2008	Engineering Material and Processes Labs	20	20
ENGR 5301	S2009	ST: Robotics	11	33
INEN 4345	S2009	Computer-Integrated Manufacturing	11	33
INEN 5345	S2009	Computer-Integrated Manufacturing	13	39
ENGR 5101	F2009	ST: Research Seminar	11	11
INEN 3322	F2009	Engineering Material and Processes	40	80
INEN 3322	F2009	Engineering Material and Processes Labs	21	21
INEN 5394	F2009	Engineering Database Design	10	30
ENGR 6320	S2010	Justification Engineering	1	3
ENGR 5301	S2010	ST: Multi-objective Optimization	7	21
INEN 4345	S2010	Computer-Integrated Manufacturing	12	36
INEN 5345	S2010	Computer-Integrated Manufacturing	15	45
ENGR 5301	SI2010	ST: Robotics	8	24
INEN 5394	SI2010	Engineering Database Design	11	33
ENGR 6320	F2010	Justification Engineering	1	3
ENGR 6601	F2010	Field Study	1	6
ENGR 5101	F2010	ST: Research Seminar	5	5
ENGR 6110	F2010	Doctoral Seminar	13	13
INEN 3322	F2010	Engineering Material and Processes	44	88
INEN 3322	F2010	Engineering Material and Processes Labs	21	21
INEN 5394	F2010	Engineering Database Design	6	18
ENGR 6320	S2011	Justification Engineering	1	3
ENGR 6601	S2011	Field Study	1	6

ENGR 5320	S2011	Statistical Decision Making	11	33
INEN 4345	S2011	Computer Integrated Manufacturing and lab	10	30
INEN 5345	S2011	Computer Integrated Manufacturing and lab	9	27
ENGR 6320	SIII2011	Justification Engineering	1	3
ENGR 5301	SI2011	Introduction to Robotics	9	27
INEN 5396	SI2011	Automated System Engineering	11	33
ENGR 6320	F2011	Justification Engineering	1	3
ENGR 6602	F2011	Field Study	1	6
ENGR 6110	F2011	Doctoral Seminar	14	14
ENGR 5101	F2011	Masters Seminar	10	10
INEN 3322	F2011	Engineering Material and Processes	40	80
INEN 3322	F2011	Engineering Material and Processes Labs	21	21
INEN 5394	F2011	Engineering Database Design	10	30
ENGR 6320	S2012	Justification Engineering	1	3
ENGR 6601	S2012	Field Study	1	6
ENGR 6373	S2012	Multi-obj Optimization	7	21
INEN 4345	S2012	Computer Integrated Manufacturing and lab	13	39
INEN 5345	S2012	Computer Integrated Manufacturing and lab	7	21
ENGR 6110	S2012	Doctoral Seminar	13	13
ENGR 6320	SIII2012	Justification Engineering	1	3
ENGR 5390	SIII2012	Thesis	1	3
ENGR 4301	SIII2012	ST: Manufacturing for IT	12	36
INEN 5396	SI 2012	Automated System Engineering	7	21
ENGR 6320	F2012	Justification Engineering	1	3
ENGR 6601	F2012	Field Study	1	6
ENGR 6602	F2012	Field Study	1	6
ENGR 5390	F2012	Thesis	1	3
ENGR 5391	F2012	Thesis	1	3
ENGR 5110	F2012	Masters Seminar	2	2
INEN 3322	F2012	Engineering Material and Processes	33	66
INEN 4375	F2012	Simulation of Industrial Systems	13	39
INEN 5375	F2012	Simulation of Industrial Systems	7	21
ENGR 6601	S2013	Field Study	1	6
ENGR 6602	S2013	Field Study	1	6
ENGR 5391	S2013	Thesis	2	6
INEN 3322	S2013	Engineering Material and Processes	34	68
INEN 4345	S2013	Computer Integrated Manufacturing and lab	11	33
INEN 5345	S2013	Computer Integrated Manufacturing and lab	7	21
ENGR 6602	SIII2013	Field Study	1	6
ENGR 4301	SIII2013	ST: Manufacturing for IT	10	30
INEN 5396	SI 2013	Automated System Engineering	5	15
ENGR 6320	F2013	Justification Engineering	1	3
ENGR 5391	F2013	Thesis	1	3

INEN 3322	F2013	Engineering Material and Processes	44	88
INEN 4375	F2013	Simulation of Industrial Systems	15	45
INEN 5375	F2013	Simulation of Industrial Systems	10	30
ENGR 6320	S2014	Justification Engineering	2	6
ENGR 6601	S2014	Field Study	2	12
INEN 3322	S2014	Engineering Material and Processes	42	84
INEN 4345	S2014	Computer Integrated Manufacturing and lab	15	45
INEN 5345	S2014	Computer Integrated Manufacturing and lab	11	33
ENGR 6320	F2014	Justification Engineering	1	3
ENGR 6601	F2014	Field Study	2	12
ENGR 6602	F2014	Field Study	1	6
INEN 3322	F2014	Engineering Material and Processes	82	164
INEN 4375	F2014	Simulation of Industrial Systems	9	27
INEN 5375	F2014	Simulation of Industrial Systems	28	84
ENGR 6320	S2015	Justification Engineering	2	6
ENGR 6601	S2015	Field Study	2	12
INEN 3322	S2015	Engineering Material and Processes	56	112
INEN 4345	S2015	Computer Integrated Manufacturing and lab	8	24
INEN 4345	S2015	Computer Integrated Mfg and lab (online)	13	39
INEN 5345	S2015	Computer Integrated Manufacturing and lab	22	66
ENGR 6320	SIII2015	Justification Engineering	1	3
ENGR 4301	SIII2015	ST: Manufacturing for IT	11	33
ENGR 6320	F2015	Justification Engineering	2	6
ENGR 6601	F2015	Field Study	3	18
ENGR 6602	F2015	Field Study	2	12
INEN 3322	F2015	Engineering Material and Processes	81	162
INEN 4375	F2015	Simulation of Industrial Systems	11	33
INEN 4375	F2015	Simulation of Industrial Systems (online)	7	21
INEN 5375	F2015	Simulation of Industrial Systems	92	276
ENGR 6320	S2016	Justification Engineering	1	3
ENGR 6601	S2016	Field Study	4	24
ENGR 6602	S2016	Field Study	3	18
INEN 3322	S2016	Engineering Material and Processes	38	76
INEN 4345	S2016	Computer Integrated Manufacturing	14	28
INEN 4345	S2016	Computer Integrated Mfg and lab (online)	10	30
INEN 5345	S2016	Computer Integrated Manufacturing	20	40
		Total	1,751	4,135

### Description of Service & Synergistic Activities

#### Departmental Service

Graduate Advisor (current number of graduate students: 224)	9/2006 – Present
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<ul style="list-style-type: none"> <li>● Recruit new students</li> <li>● Review student records and determine student admission</li> <li>● Prepare DE, ME and MES admission requirement for IE</li> <li>● Advise student courses</li> <li>● Serve in numerous Comprehensive Exam committees</li> <li>● Organize Comprehensive Exams</li> </ul>	
Prepare course assessment materials for ABET	Every year
Search committee members for 3 IE Assistant Professors	2015 - 2016
Search committee chairs for two IE Assistant Professors and one instructor	2014 - 2015
Assist hiring two new IE Assistant Professors	2013 - 2014
Host Industrial Engineering Open House to high school students: Fall 2005, Spring 2006, Fall 2006, Spring 2007, Fall 2007, Spring 2008, Fall 2008, Spring 2009, Fall 2009, Spring 2010, Fall 2010, Spring 2011, Fall 2011, Spring 2012, Fall 2012, Spring 2013, Fall 2013, Spring 2014, Fall 2014, Spring 2015	Every semester since I joined Lamar University
Sat in and evaluate Mechanical and Industrial Engineering senior design presentations	Most semesters
The Tenure and Promotion Committee of Dr. J. Curry	2011
The Tenure and Promotion Committee of Dr. A. Marquez and Dr. X. Liu	2012
Complete annual research report for the IE department	Every year since 2008
Prepared job description for IE Technician position	2014
When Chair was not in, I attended CID meetings and Chair meetings a few times.	2014
Hosted a visiting scholar Dr. Ge Jiang and a visiting student, from Zhejiang University of Technology – Zhijiang College	Sept. 2014
Hosted a visiting scholar Dr. Ge Jiang, from Zhejiang University of Technology – Zhijiang College	Sept to Nov 2011

College Service

<p>SACS Coordinator for Master of Engineering, Master of Engineering Science and Doctor of Engineering (ME/MES/DE) programs</p> <ul style="list-style-type: none"> <li>● Prepare assessment plan each year;</li> <li>● Prepare the learning objectives and institutional effectiveness documents;</li> <li>● Collected assessment results and submitted to Weaver system each year;</li> <li>● Prepare high impact programs documentation;</li> <li>● Prepare DE, ME and MES graduate plan for graduate catalog;</li> <li>● In 2014~2015, completed Program Improvement Report (PIR) for DE, ME and MES programs;</li> </ul>	9/2007 – present
Teach Fundamental of Engineering course – Dynamics, each semester	2014 - present
The Tenure and Promotion Committee of Dr. T. Benson	2014
The University Professor and Merit Award 2011 nomination committee	2011, 2016
Safety Committee	2015 - present
Various ad-hoc committees	2006 - 2011



University Service

Member of Quality Enhancement Program (QEP) Assessment Committee	2015 - present
Member, Office of Undergraduate Research Advisory Committee <ul style="list-style-type: none"> <li>● Attended monthly meetings;</li> <li>● Reviewed 20 undergraduate research proposals;</li> <li>● Reviewed STEM conference proposals;</li> <li>● Reviewed guidelines for proposals and awards;</li> </ul>	2014 - present
Member of Research Council <ul style="list-style-type: none"> <li>● Reviewed REG proposals;</li> <li>● Reviewed University Scholars;</li> <li>● Reviewed Presidential Research Fellowship proposals;</li> <li>● Reviewed Distinguished Faculty Fellows proposals;</li> </ul>	2012 - 2015
Member of Provost Search Committee <ul style="list-style-type: none"> <li>● Attended 10/2014 kick-off meeting</li> <li>● Attended 11/19/2014 first round meeting</li> <li>● Attended 12/01 and 12/02/2014 first round interview</li> <li>● Attended 01/15 to determine onsite interviewees</li> <li>● Attended onsite interview meetings</li> </ul>	2014 - 2015
Faculty Senator	2009 - 2012

Professional & Community Service

- Program Committee member: International Symposium of Neural Networks 2011; Third International Workshop on Advanced Computational Intelligence; International Symposium of Neural Networks 2010; International Conferences on Manufacturing Automation 2010; Eighth International Conference on Simulated Evolution And Learning (SEAL-2010);
- Symposium Organizer for ASME Manufacturing Science and Engineering Conference 2009, Purdue University, West Lafayette, Indiana;
- Track chair/co-chair: ISERC 2016 Modeling and Simulation track;
- Session chair/co-chair: Texas STEM 2015 Conference; ISERC 2015 Conference; IEEE SMC 2009 Conference; ASME IMECE 2008 Conference; SME/NAMRI 2007 Conference; ASME MSEC 2006 Conference;
- Book reviewer: The Handbook of Technology Management (2008); A book proposal for CRC Press;
- Journal reviewer:
  - ACM-Computing Surveys.
  - ASME Journal of Manufacturing Science and Engineering
  - Computers and Industrial Engineering
  - IEEE Transactions on Automation Science and Engineering
  - IEEE Transactions on Cybernetics
  - IEEE Transactions on System, Man and Cybernetics-B
  - IIE Transactions
  - Image and Vision Computing
  - International Journal of Bio-Inspired Computation
  - International Journal of Communication Systems
  - International Journal of Production Economy
  - International Journal of Production Research
  - Journal of Automation, Mobile Robotics & Intelligent System
  - Journal of Cleaner Production
  - Journal of Computer-Aided Design
  - Journal of Heuristics
  - Mathematics and Computers in Simulation

- Optimization Methods and Software;
- Production and Operation Management Journal
- SME Journal of Manufacturing Systems
- Transactions of the ASME: Journal of Computing and Information Science in Engineering
- Virtual Reality
- Conference paper reviewer:
  - ASME-IDETC 2016 Conference
  - ISERC 2016 Conference
  - ASEE 2016 Conference
  - WorldHaptics 2015 Conference
  - ASME IMECE 2015 Conference
  - FAIM 2014 Conference
  - ISCIE/ASME 2014 International Symposium on Flexible Automation (ISFA2014)
  - SME NAMRC 2014 Conference
  - IEEE SSCI 2014 Conference
  - ISERC 2012 Annual Conference,
  - IEEE CEC 2012
  - ASME MSEC 2011
  - ASME IDETC/CIE 2011
  - SEAL 2010 Conference
  - IERC 2010 Annual Conference
  - ASME IDETC/CIE 2010 Conference
  - ASME WINVR 2010 Conference
  - ASME MSEC 2009 Conference
  - ACM SIGEVO Genetic and Evolutionary Computing Summit 2009 Conference
  - ASME IMECE 2008 Conference
  - WorldHaptics 2007 Conference
  - ASME MSEC 2007 Conference
  - ASME MSEC 2006 Conference
  - ASME IDETC 2004 Conference
  - ASME IMECE 2004 Conference;
- Panel:
  - ‘The Engineering Gap – Is Production Meeting Demand?’, the Instrumentation, Systems and Automation Society Exposition, Houston, TX, USA, Oct 2006;
  - National Science Foundation Panel reviewer for ENG-CMMI in Spring 2008;
  - National Science Foundation Panel reviewer for ENG-IIP-SBIR in Summer 2008;
  - National Science Foundation Panel reviewer for ENG-CMMI in Spring 2009;
  - National Science Foundation Panel reviewer for ENG-IIP-SBIR in Summer 2009;
  - National Science Foundation Panel reviewer for ENG-IIP-SBIR in Spring 2010;
  - National Science Foundation Panel reviewer for ENG-IIP-SBIR in Spring 2011;
  - National Science Foundation Panel reviewer for ENG-EEC in Summer 2011;
  - National Science Foundation Panel reviewer for ENG-IIP-SBIR-II in Fall 2011;
  - National Science Foundation Panel reviewer for ENG-CMMI in Spring 2012;
  - National Science Foundation Panel reviewer for EHR-DUE in Summer 2012;
  - National Science Foundation Panel reviewer for ENG-MRI in Spring 2013;
  - National Science Foundation Panel reviewer for EHR-DUE in Fall 2015;
  - National Science Foundation Ad-hoc reviewer, Summer 2012;
  - National Science Foundation Ad-hoc reviewer, Summer 2015;
  - National Institute of Health Panel reviewer in Spring 2012;
  - National Institute of Health Panel reviewer in Summer 2012;
  - National Institute of Health Panel reviewer in Fall 2012;
  - National Institute of Health Panel reviewer on June 17, 2014;

- National Institute of Health Panel reviewer on June 30, 2014;
- Professional Consulting:
- Yantric *Inc.*, Touch-based Medical Simulation proposals and projects, especially in Regional Anesthesia (*National Institute of Standards and Technology* and *U.S. Department of Defense* funded Research & Development), Collaboration with MIT (Massachusetts Institute of Technology) Touch Lab and MGH (Massachusetts General Hospital);
- mySmartSimulation *Inc.*, Education and Training, Virtual Reality and Haptic-based Medical Simulation projects; developed a haptic-based laser prostate surgical simulator (<http://www.nxtbook.com/nxtbooks/nielsen/training0909/index.php?startid=Cover1&WidgetId=nul1&BookId=9afdeb795f7857e8cc4dc62aa37db9bb#/64>);
- Organized a golf ball tournament with ISA (Instrumentation, System and Automation Society) – Beaumont Section, and raised \$5,000 for Lamar Industrial Automation and Process Control Initiative, May 2007;
- Organized a golf ball tournament with ISA (Instrumentation, System and Automation Society) – Beaumont Section, and raised \$30,000 for College of Engineering Scholarship, May 2009;
- Give haptics and robotics presentation to K8 students from the M.L.K. middle school at Beaumont, Texas, April 2007 and May 2008;
- Give haptics and robotics presentation to K9-12 students from the Lamar University Achievement in Mathematics Program, a summer enrichment camp for female, underrepresented, and economically disadvantaged high school students, June 2010;
- Give presentation of Mobile Learning to 100 high school students from Lumberton ISD, Dec 2013;
- Give presentation of Mobile Learning to 30 high school students from High Island High School, Dec 2013;
- Support presentation of Mobile Learning, Robotics and 3D printing to 30 middle school students in Lamar Introduction to Engineering (LITE) summer camp, July 2014;
- Presentation of 3D printing to 50 high school teachers in STEM seminars, Jan 12, 2015;
- Presentation of 3D printing and design software to 50 middle school students in Lamar Introduction to Engineering (LITE) summer camp, July 2015;
- Presentation of 3D printing and design software to 40 high school teachers in July 2015;
- Attended many ASME and ISA local professional section meetings;
- Attended Accent Management short course (8 lectures) offered by Department of Speech and Hearing at Lamar University, April 2016.

### Languages

- English (fluent); Chinese (native); Japanese (intermediate); Spanish (basic)

### Computer Skills

- *Tools*: Visual C++, Objective-C, Java for Android, JavaScript+HTML5+CSS3, PHP, CUDA, OpenCL, OpenGL, Visual Basic, OpenHaptics, Novint Falcon SDK, Python, SolidWorks API; Work with Windows, Mac and Linux;
- *Commercial software development system*: Visual Studio, X-Code, Eclipse, Perforce, PR-Tracker, Beyond Compare, CVS, Mercurial, Git;
- *Database*: MySQL, MS Access, MS SQL Server;
- *CAD/CAM*: PTC Creo, SolidWorks, SurfCAM, AnSys, Rhino 3D, Autodesk Fusion 360, 123D Design, CNC programming;
- *Web Server*: Apache, Node.js, MS IIS Server;
- *Others*: MATLAB, R, SPSS, MiniTab, Rockwell Arena, AnyLogic, FlexSim, NetLogo, MapWindowGIS, Irrlicht 3D, ODE, Rockwell RsLogix, TriLogi, CPLEX, CorelDraw, DreamWeaver, Photoshop, MS Visio, Unreal Game Engine, IDEF, TCL/TK, etc;
- China National Software Engineer Certificate, 1998;