James Curry

Dept Of Industrial Engineering
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Education

1/96- 12/03	PhD Industrial Engineering
Texas A&M University
1/93-5/96	MS Operations Research and Industrial Engineering
University of Texas at Austin
9/89-12/92	BS Mechanical Engineering
University of Texas at Austin

Areas of Interest

- Optimization
- Data Mining
- Logistics and Scheduling
- Supply Chain Management
- Software Development
- Natural Language Generation

Academic Experience

Lamar University Department of Industrial Engineering
Department Chair (7/22 – Present), Associate Professor (9/12 – Present), Assistant Professor (8/06- 9/12)

Teaching at Lamar:

Taught courses to undergraduate engineering, undergraduate technology and graduate students. Maintained high student evaluations in all courses. Course titles include:

- Production and Inventory Control*
- Operations Research*
- Operations Research II
- Simulation*
- Computer Application*
- Applied Programming
- User Interface

- Introduction to Engineering
- Introduction to Industrial Engineering*
- Text Engineering
- Enterprise Business Intelligence
- Data mining with SAS and MySQL
- Engineering Database

* Indicates online and face to face.

Funded Research Projects at Lamar University:

PI or CO-PI on 10 funded projects. The total value of these projects is over $1,500,000.

1. Gulf Research Program, National Academies of Sciences, Engineering, and Medicine, Safer Offshore Energy Systems Grants 4, Washington, DC, Developing an Integrated Offshore Energy Industry Safety Culture Evaluation and Improvement Toolbox, K. McSweeney – Project Director (PI) with Key Personnel: S. Arendt, B. Craig, J. Curry, W. Zhu, and J. Pray. Submitted April, 2019 for January 2020 – August 2022. Total Budget Requested $1,439,830. Lamar University's Budget $204,059. With the American Bureau of Shipping (Lead Organization). Funded, January 2020.

2. Scholarships, Career Mentoring, Outreach and Advisement, Professional Societies and Engineering Learning Community (SCOPE) NSF S-STEM (Scholarship for STEM) grant. PI Dr. Zhu, CO-PIs: Dr. Curry, Dr. Craig, Dr. Zhou and Dr. Chu (September 1, 2015 to August 31, 2020) $625,300.

3. Development of the ASTM Standard for Injury and Illness Data Collection and Reporting and the ASTM Standard for Near Miss Collection and Reporting, Ship Operations Cooperative Program (SOCP), Woodinville, Washington, B. Craig – Principal Investigator with Co-PI's: James Curry and Weihang Zhu (2014 – 2016) $50,000.

4. Prototype Leading Indicator Tool, American Bureau of Shipping, Houston, Texas, Brian Craig – Principal Investigator with Co-PI's: James Curry and Weihang Zhu (Fall 2010 – Present) $437,099. The system has performed safety culture assessments on seven international marine companies and government organizations. The results are used to develop and improve safety within the marine industry. My primary roles are report development, testing and data analysis.

5. Mariner Safety Program (formerly Mariner Personal Safety), American Bureau of Shipping, Houston, Texas, Brian Craig – Principal Investigator with Co-PI's: James Curry and Weihang Zhu (Fall 2009 – Present) $469,402. The project developed an international mariner personal safety data system representing 31 international marine companies and government organizations. To date over 100,000, near miss and injury events have been collected and studied. My primary roles are data collection and database design.

6. Co-PI with Dr. Victor Zaloom on Army Material Command fellows Masters program. This Masters of Engineering program provides degrees to army civilian personnel. My primary responsibilities were writing the proposal, developing degree plans, developing distance education procedures and advising students. One group of 11 students completed the program. (December 2009- December 2011).

7. CO-PI with Dr. Zhu PI and Dr. H. Lou CO-PI on a grant to use Agent-based Modeling and Simulation for Hazardous Waste Reverse Logistics. (Sept 2008 - August 2009).

8. Modeling wood procurement policies for a paper mill. This project developed a decision support system to assist with pricing and network designs given random weather conditions and seasonality. This project employed GIS data developed from satellite images to estimate the amount of wood available in the draw area. The project also developed a series of reports and forecasting tools based on time series models to assist buyers with purchasing wood. (March 2008- December 2008)

9. Data capture and reporting for an automated coating line for a local manufacturing company. Productivity reports were constructed using data captured from RS View software monitoring the material handling system hardware. The reports describe the daily and hourly performance of the line. The reports also display down time by reason code. Using this information, the team developed process improvements. The reports provide a clear description of the productivity of the line. (Fall 2006 – Fall 2007)

10. Internal research enhancement grant on the vehicle routing problem. (Academic year 2008). A student completed his MS thesis on this topic.

Graduate Students Advised at Lamar University:

Doctoral Students

1. Pouyeh Rezazadeh (Fall 2016). Knowledge-Base Application for Recommending Similar Near Miss Incidents in Large Data Sets.

2. Chinar Potnis (Spring 2016). Cleaning Large Data Sets with a Coordinated Machine Learning and Manual Approach.
3. Naif AlShammari (Fall 2014). Refinery Production Planning Considering Nervousness.
4. Fatemeh Hosseinzadehdastak (Fall 2014). Developing Effective Cross Tabs to Visualize Data Sets.
5. Majed Al-Bokhari (Summer 2014). A Data to Text Framework for Describing Regression Models: An Optimization Approach for Content Determination.
6. Lonnie Turpin (Spring 2014). Using Natural Language Generation to Document Portfolio Performance: An Optimization Approach for Content Determination.
7. Pavan Mhasavekar (Summer 2013). Inventory Metrics for Lead Time Focused Manufacturing.
8. Carol Schulte (Spring 2008). A Heuristic Algorithm for Scheduling Hazardous Waste Incinerators (Co-Advised with Dr. Victor Zaloom).

Master of Engineering Science Thesis Students
1. Nikita Lis (Fall 2019). Delphi-SWOT strategic planning for the Industrial Engineering Department at Lamar University using data analytics.
2. Hrishikesh Wagh (2018). Data visualization and KPI's using speech recognition.
3. Datta Tele (2017). Text Classification and Cleaning of Near Miss Records.
4. Omkar Dhok (2017). Reports to Rank Healthcare Services Providers.
5. Kallul Paul (2012). Classifying Records Using Text Mining
6. Vaibhav Chauhan (2012). Cleaning Records Using Text Mining Algorithms
7. Jovan Hill (Spring 2008). Currency Impact on Vendor Selection in a Bid Environment
8. Prashant Mehta (Fall 2008). Calculating the Internal Rate of Return of Mortgages
9. Pavan Masvekar (Fall 2008). Vehicle Routing Problems with the Dual Objectives of Days and Miles

Service at Lamar University:

- Actively supported writing ABET reports (2012 and 2018).

- Redesigned the Industrial Engineering Departments website with frequent content updates (https://www.lamar.edu/engineering/industrial/index.html).

- Developed videos to support department outreach efforts (example graduate video https://www.youtube.com/watch?v=iP3aedrEHVI).

- Helped setup and market a 2+2 online version of the BSIE program. Aided in developing articulation agreements (over 30 agreements mostly BSIT).

- Reviewed about 20 student resumes per year.

- Advised students (undergraduate and doctoral students).

- Assisted with reviewing transfer student course substitutions.

- Active with recruitment including visits to community college.

Awards at Lamar University:

- Lamar University Merit Award Spring 2011

Industry Experience

Vector SCM (Logistic Provider for GM)
Senior Engineer (2/04-8/06)

- Conducted studies to locate distribution centers, remote sequencing/subassembly centers, and intercontinental warehouse facilities for GM North America, GM AP, China, and GM Europe. Study results guided the procurement of these facilities. (1/05-7/06)

- Designed and implemented cost saving initiatives (routing changes and cube improvements) for the GM ocean transportation network. (1/06 – 8/06)

- Developed and implemented an effective software tool to identify milkruns and truckloads that can be routed at a lower cost via a consolidation center. This software is periodically used by eight engineers to find cost saving opportunities. (7/05-8/05)

- Developed an Access based program for redesigning GM routes from Mexico to assembly plants in the United States and Canada. Primary program features are cube calculation, route display using PC*Miler Mapping, automated bid template creation, and a flat file interface to MaxLoad for load construction. The program allows engineers to quickly build effective routes. (11/05 - 1/06).

- Designed and implemented route changes for GM Mexico. (3/05-4/05)

- Improved global ocean freight bids (container and vehicle) by developing reports, business processes, and databases. (2/04-1/05)

IBM Global Services - Supply Chain Services
Associate Consultant (11/98-11/01)

- Developed reports for i2 Transportation Manager for the retail industry. The reports described carrier performance, network performance, and operational status of freight. (6/01-9/01)

- Developed functional and technical specifications for a custom scheduling system for IBM Business Recovery Services. The proposed system would schedule over 5000 resources. The proposal was approved for funding. (02/01-11/01)

- Implemented i2 Transportation Manager at a major third party logistics provider (UPS). Primary responsibilities were master operating procedure development, reports development, tariff development, post implementation go live support, and testing. (11/99- 1/01)

- Assisted in developing an intellectual capital database for the supply chain management practice. (10/99-11/99)

- Implemented SynQuest software for supply chain management, scheduling, and manufacturing execution at client sites in the printing industry. Primary responsibilities were optimization, process documentation, and end user training. (3/99-10/99)

Texas A&M University - Computer Aided Lab
Research Assistant (1/96-11/98)

- Manufacturing Developed production and inventory control models for an aircraft remanufacturing facility in a project for Corpus Christi Army Depot (CCAD) using CPLEX and Arena.

- Developed simulation models of intruder detection systems in a project for Sandia National Labs using Arena, Visual Basic, and Access.

City of Austin
Engineering Associate (12/94-1/96), Research Specialist (1/94-12/94), Professional Intern (6/93 - 1/94)

- Wrote four major reports on the effectiveness of government programs.

- Analyzed large data using statistical techniques (regression and time series analysis).

- Developed three major grant proposals with two receiving funding.

- Developed databases.

University of Texas at Austin
Teaching Assistant for Engineering Economic Analysis (1/93-5/93)

Computer Skills

Data Analysis: R, SAS, SPSS, Rapid Miner
OR: CPLEX, Arena, At Risk
Database: SQL Server, Oracle, Access, mySQL
Languages: Python, JavaScript, C++, Visual Basic, C#, R, VBA
SCM: SAP and Transportation Manager
Strong Microsoft Office (Word, Excel, Power Point, Access) skills both teaching and using.

Articles and Conference Papers

1. Robert Kelley Bradley, James Curry, Victor Zaloom, Brian Craig, Alberto Marquez, Xinyu Liu, Berna Tokgoz, Yueqing Li, Maryam Hamidi, Gary Yentzen, Acyut Kaneria, Weihang Zhu, Results of the First 6 Years of a 2 + 2 Online B.S. Industrial Engineering Degree Pathway, ASEE Annual Conference 2021.

2. Schulte, C., Curry, J., Zaloom, V., Zhu, W., Lou, H., Marquez, A. (2010). Scheduling Hazardous Waste Incinerators Using a Simulated Annealing Linear Programming Heuristic, *Environmental Engineering Science*. 27(7): 569-575. (Peer Reviewed Journal with Impact Factor of .893)

3. Zhu, W., Curry, J., and Marquez, A. (2008). SIMD Tabu search for the Quadratic Assignment Problem with graphics hardware acceleration. *International Journal of Production Research International Journal of Production Research,* Volume 48, Issue 4, 1035 - 1047. (Peer Reviewed Journal with Impact Factor of 1.03)

4. *Curry, J. and Peters, B. A. (2005). Rescheduling parallel machines with stepwise increasing tardiness and machine assignment stability objectives. International Journal of Production Research, 43 (15), 3231-3246.* (Peer Reviewed Journal with Impact Factor of 1.03)

5. Zhu, W., Yoo, J., Curry, J. C., Craig, B., Chu, H., Zhou, J. (2019), Impact of Awarding Scholarships to Current Students Paper presented at 2019 ASEE Annual Conference & Exposition , Tampa, Florida. https://peer.asee.org/32924

6. James Curry, Weihang Zhu, Brian Craig, Lonnie Turpin Jr., Majed Al-Bokhari, Pavan Mhasavekar, Using a Natural Language Generation Approach to Documenting Simulation Results, Winter Simulation Conference, December 2013, Washinton DC, USA. (Peer Reviewed)

7. Kevin McSweeney, Brian Craig, James Curry, Weihang Zhu, Are Mariner Near Misses Influencing Design?, Journal of Transportation Research Board, 2013. (Peer Reviewed)

8. Weihang Zhu, James Curry, Anjali Mishra and Victor Zaloom (2009). A study of Ant Colony-Based Parallel Machine Scheduling with Graphics Hardware Acceleration, *Proceedings of the ASME 2009 International Manufacturing Science and Engineering Conference*, October 4-7, 2009, West Lafayette, Indiana, USA. (Peer Reviewed)

9. Weihang Zhu and James Curry (2009). 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. (Peer Reviewed)

10. Weihang Zhu and James Curry (2009). Particle Swarm with Graphics Hardware Acceleration and Local Pattern Search on Bound Constrained Problems, *IEEE Swarm Intelligence Symposium.* (Peer Reviewed)

11. Weihang Zhu and James Curry (2009). Multi-walk Parallel Pattern Search on a GPU Computing Platform, *International Conference of Computational Science*, Baton Rouge, LA, USA, 2009. (Peer Reviewed)

12. Weihang Zhu, James Curry, A. Marquez, GPU-accelerated SIMT Tabu Search for the Quadratic Assignment Problem, *Transactions of SME/NAMRC 2009.* (Peer Reviewed)

13. Smith, J.S., Peters, B.A, Curry, J. and Gupta, D., Prototype software model for designing intruder detection systems with simulation, *Proceedings of SPIE '98*, Orlando, FL, April, 1998. (Peer Reviewed)

14. Peters, B.A., Smith, J.S., Curry, J., LaJimodiere, C. and Drake, G.R. (1996), Simulation based scheduling and control, *Proceedings of the 1996 Winter Simulation Conference*, San Diego, CA. (Peer Reviewed)

15. Craig, B., Curry, J., Zhu, W., McSweeney, K., and Papillon, R., Reporting Practices for Near Miss Reporting Systems, Proceedings of the 2014 Offshore Technology Conference, Houston, Texas, May 2014.

16. Dr. James Curry, Dr. Brian Craig P.E., and Dr. Weihang Zhu (2016). An Online 2+2 Bachelor's Degree Program Track in Industrial Engineering at Lamar University. ASEE 123rd Annual Conference and Exposition, New Orleans, June 26-29.

17. Dr. Nicholas Brake and Dr. James C. Curry (2016). The Impact of One-Credit Introductory Engineering Courses on Engineering Self-Efficacy: Seminar v. Project-Based. ASEE 123rd Annual Conference and Exposition, New Orleans, June 26-29.

18. Ning Lou, Ezra Wari, James Curry, Kevin McSweeney, Rick Curtis, Brian Craig, Muhammad Hussain, Weihang Zhu, Identifying Safety Culture Factors for Offshore Industry, 26th SNAME Symposium, Houston, TX, Apr 6-7, 2021