

Cheng, Chi-Bin

Professor

Department of Information Management

Tamkang University

Work Address: 151 Yingzhuan Rd., Danshui Dist., New Taipei City, Taiwan

cbcheng@mail.tku.edu.tw

Professional Interests

Soft computing, Group decision making, Machine learning, Data mining, Supply chain management, E-commerce

Education

Ph.D. Dept. of Industrial and Manufacturing Systems Engineering
 Kansas State University, Manhattan, Kansas, USA

M.E Dept. of Industrial Engineering
 Lamar University, Beaumont, Texas, USA

B.S. Dept. of Industrial Engineering
 Chung-Yuan Christian University, Taiwan

Professional Experience

2/2010 – date	Professor, Dept. of Information Management, Tamkang University, Taiwan
8/2006 – 1/2010	Associate Professor, Dept. of Information Management, Tamkang University, Taiwan
2/2005 – 7/2006	Associate Professor, Dept. of Industrial Engineering and management, Chaoyang University of Technology, Taiwan
8/1998 – 1/2005	Assistant Professor, Dept. of Industrial Engineering and management, Chaoyang University of Technology, Taiwan
10/1991 – 11/1994	Specialist, Science and Technology Information Center, National Science Council, Taiwan
7/1988 – 6/1989	Research assistant, National Sun-Yet-Sen University, Taiwan
10/1987 – 4/1988	Quality engineer, Lim-Sham-Han Tempered Glass Inc., Taiwan

Teaching Experience

- Courses taught in undergraduate : Production management, Operations research, Time and motion study, Cost accounting, Statistics, Management, Management information systems, e-commerce
- Courses taught in graduate : Fuzzy set theory, Neural networks, Supply chain management, E-commerce, Group decision making, Time series analysis
- Invited lecturer, Incubation Center, Chaoyang University of Technology, Taiwan, 5/2001

- Invited Lecturer, Mongolia University of Technology, Ulanbator, Mongolia, 9/2001

Research Funding

- Dynamic supply chain configuration by automated auction and fuzzy mathematical programming, 8/2007-7/2010 (National Science Council, Taiwan)
- Learning algorithm for a financial distress prediction model based on neural networks and statistical approaches, 8/2006-7/2008 (National Science Council, Taiwan)
- Formulation of optimum inventory policies in a supply chain by intelligent agents and multi-level programming, 8/2004-7/2006 (National Science Council, Taiwan)
- Deployment of the balanced scorecard by web-based group decision making methods, 8/2003-7/2004 (National Science Council, Taiwan)
- Design of compensation plan of managers by system dynamics and multi-level programming, 8/2002-7/2003 (National Science Council, Taiwan)
- Quality engineering by fuzzy regression analysis and dual-response optimization, 8/2001-7/2002 (National Science Council, Taiwan)
- Quality function deployment by fuzzy regression analysis and multi-objective decision making, 8/2000-7/2001 (National Science Council, Taiwan)
- Vehicle routing of a frozen food distribution center, 8/1999-7/2000 (National Science Council, Taiwan)
- Solving a part-tool grouping problem in a flexible manufacturing system by simulated annealing, 8/1998-7/1999 (Chaoyang University of Technology, Taiwan)

Academic Awards

- Research Awards, Tamkang University, Taiwan, 2006-2009
- Distinguished Mentor, Chaoyang University of Technology, 2004
- Research Awards, Chaoyang University of Technology, Taiwan, 1999-2004
- Research Awards, National Science Council, Taiwan, 1998-2000

Certificate

- Solution Consultant, SAP, Certificate ID: 0004665757 (9/27/2007)

Industrial Cooperation and Projects

- Flight operations risk assessment system enhancement, Eva Air, Taiwan, 7/2009 - date
- Flight data transferring tool, Eva Air, Taiwan, 10/2009 – 4/2010
- Facility planning and improvement, Shen-Hsin Industrial Inc., Taiwan, 2/2005 – 1/2006
- New plant facility planning, Printing Plant of the Ministry of Finance, Taiwan, 7/2003 – 5/2004
- Operations standard formulation, Usdollar Inc., 7/2002 – 5/2003

- Time study and Line balance, Kingholy Inc., Taiwan, 7/2001 –5/2002
- Improvement of sales process and warehousing, Asian Records, Taiwan, 7/2000 –5/2001
- Total productivity maintenance, Shanyang Electronic Inc., Taiwan, 7/1999 – 5/2000
- Process and quality improvement, Lishan Industrial Inc., Taiwan, 8/1998–5/1999
- Introduction of Toyota production system, Fengming machining Inc., Taiwan, 8/1998 – 5/1999

Professional Activities

- Referee in Computers & Industrial Engineering, Information Sciences, Journal of Production Economics, Fuzzy Sets and Systems, Computers & Operations Research, Computers and Mathematics with Applications, Journal of Materials Processing Technology, Computational Statistics and Data Analysis, Journal of Intelligent and Fuzzy Systems, Applied mathematics and Computation, Journal of Science and Industrial Research, International Journal of Approximate Reasoning, Fuzzy Optimization and Decision making, and Mathematical Problems in Engineering, etc.
- Reviewer, National Science Council, Taiwan, 2005, 2008, 2010
- Session chair, The 10th International Conference on Cybernetics and Information Technologies, Systems and Applications, Jul. 21-25, Orlando.
- Session chair, The 2nd IFAC International Conference on Intelligent Control Systems and Signal Processing, Sep. 21-23, Istanbul.
- Member of Editorial Review Board, International Journal of Soft and Intelligent Computing and Mathematics, IGI Global (2009 – present).

Major Invited Speeches

- Invited speaker, "Soft computing and its applications in industrial management" , Guangdong University of Technology, Guangzhou, China, 10/18/2011
- Invited speaker, "The enhancement and implementation of the flight operations risk assessment system (FORAS)", The 64th International Air Safety Seminar (IASS) , Singapore, 11/2/2011

Publications

■ Journals

1. C.-B. Cheng, H.-C. Wu, and C.-C. H. Chan, 2012, Design of a combinational auction mechanism for television advertising market in Taiwan, *Research Journal of Applied Sciences, Engineering and Technology*, accepted. (EI)
2. C.-J. Cheng, S. W. Chiu, C.-B. Cheng, J.-Y. Wu, 2011, Customer lifetime value prediction by a Markov chain based data mining model: application to an auto repair and maintenance company in Taiwan, *Scientia Iranica*, accepted. (SCI)

3. C.-B. Cheng and C.-J. Cheng, 2011, Available-to-promise based bidding decision by fuzzy mathematical programming and genetic algorithm, *Computers & Industrial Engineering*, 61, 993-1002. (SCI).
4. C.-C. H. Chan, C.-B. Cheng, W.-C. Hsien, 2011, Pricing and promotion strategies of an online shop based on customer segmentation and multiple objective decision making, *Expert Systems with Applications*, 38, 14585-14591. (SCI).
5. C.-B. Cheng, Young-Jou Lai, and Kun Chan, 2011, Solving a reverse auction problem by bi-level distributed programming and genetic algorithm, *International Journal of Revenue Management*, 5(2-3), 234-260.
6. C.-B. Cheng, 2011, Reverse auction with buyer-supplier negotiation using bi-level distributed programming, *European Journal of Operational Research*, 211(3), 601-611.
7. H.-S. Shih, C.-B. Cheng, U.-P. Wen, Y.-C. Huang, and M.-Y. Peng, 2010, Determining a subsidy rate for Taiwan's recycling glass industry: an application of bi-level programming, *Journal of The OR Society*, accepted.
8. C.-W. Wu, C.-L. Chen, and C.-B. Cheng, 2010, Asset write-offs prediction by support vector machine and logistic regression, *International Journal of Applied Science and Engineering*, 81, 47-63. C.-W. Wu, C.-L. Chen, and C.-B. Cheng, 2010, Asset write-offs prediction by support vector machine and logistic regression, *International Journal of Applied Science and Engineering*, 81, 47-63.
9. S. W. Chiu, C.-B. Cheng, M.-F. Wu, and J.-C. Yang, 2010, An algebraic approach for determining the optimal lot size for EPQ model with rework process, *Mathematical and Computational Applications An International Journal*, 15(3), 364-370.
10. C.-B. Cheng and K.-P. Wang, 2009, Solving a vehicle routing problem with time windows by a decomposition technique and a genetic algorithm, *Expert Systems With Applications*, 36, 7758-7763.
11. S. W. Chiu, H.-D. Lin, C.-B. Cheng, and C.-L. Chung, 2009, Optimal production-shipment decisions for the finite production rate model with scrap, *Engineering Modeling*, 22, 25-34. (EI)
12. C.-B. Cheng, 2008, Solving a sealed-bid reverse auction problem by multiple-criterion decision-making methods, *Computers and Mathematics with Applications*, 56, 3261-3274.
13. C.-B. Cheng, 2008, Performance evaluation for a balanced scorecard system by group decision making with fuzzy assessments, *International Journal of Applied Science and Engineering*, 6(1), 53-69.
14. C.-B. Cheng and C. Wang, 2008, Outsourcer selection and order tracking in a supply chain by mobile agents, *Computers & Industrial Engineering*, 55, 406-422.

15. C.-B. Cheng, B.-G. Chang, and C.-J. Fu, 2008, Evaluating the effectiveness of a balanced scorecard system implemented in a functional organization, *Journal of International Management Studies*, 3(1), 266-274.
16. Y.-S. P. Chiu, C.-K. Ting, C.-B. Cheng, and F.-Y. Lin, 2007, Alternative approach for realistic lot-size problem with random scrap rate and backlogging, *WSEAS Transactions on Mathematics*, 6(6), 736-740.
17. C.-C. H. Chan, C.-B. Cheng, and C.-H. Hsu, 2007, Bargaining strategy formulation with CRM for an e-Commerce agent, *Electronic Commerce Research and Applications*, 6, 490-498.
18. C.-B. Cheng and C.-P. Mao, 2007, A modified ant colony system for solving the traveling salesman problem with time windows, *Mathematical and Computer Modeling*, 46, 1225-1235.
19. C.-B. Cheng, C.-C. H. Chan, and Y.-F. Hsieh, 2007, Performance Enhancement of Bayesian learning: an application involving the bargaining agent of an online bookstore, *Journal of the Chinese Institute of Industrial Engineers*, 24(5), 388-396.
20. C.-J. Fu, C.-B. Cheng, B.-G. Chang, and Y.-J. Lai, 2007, Direct and indirect effects of innovations on revenue growth: comparison between US and Taiwanese electronic firms, *International Journal of Revenue Management*, 1(2), 177-199.
21. C.-B. Cheng, C.-C. H. Chan, and K.-C. Lin, 2006, Intelligent agents for e-Marketplace: negotiation with issue trade-offs by fuzzy inference systems, *Decision Support Systems*, 42(2), 626-638.
22. C.-B. Cheng, Z.-Y. Liu, S. W. Chiu, and C.-J. Cheng, 2006, Applying fuzzy logic control to inventory decision in a supply chain, *WSEAS Transactions on Systems*, 5(8), 1822-1829.
23. C.-C. H. Chan, C.-B. Cheng, and S.-W. Huang, 2006, Formulating ordering policies in a supply chain by genetic algorithm, *International Journal of Modeling and Simulation*, 26(2), 129-136.
24. C.-B. Cheng, C.-L. Chen, and C.-J. Fu, 2006, Financial distress prediction by a radial basis function network with Logit analysis learning, *Computers and Mathematics with Applications*, 51, 579-588.
25. C.-B. Cheng, 2005, Fuzzy process control: construction of control charts with fuzzy numbers, *Fuzzy Sets and Systems*, 154(2), 287-303.
26. C.-B. Cheng, 2004, Group opinion aggregation based on a grading process: a method for constructing triangular fuzzy numbers, *Computers and Mathematics with Applications*, 48, 1619-1632.
27. C.-B. Cheng, 2004, Process optimization by soft computing and its application to a wire bonding problem, *International Journal of Applied Science and Engineering*, 2(1), 59-71.

28. C.-B. Cheng, 2003, A fuzzy inference system for similarity assessment in case-based reasoning systems: an application to product design, *Mathematical and Computer Modeling*, 38, 385-394.
29. C.-B. Cheng, C.-J. Cheng and E. S. Lee, 2002, Neuro-fuzzy and genetic algorithm in multiple response optimization, *Computers and Mathematics with Applications*, 44, 1503-1514.
30. C.-B. Cheng and E. S. Lee, 2001, Switching regression analysis by fuzzy adaptive network, *European Journal of Operational Research*, 128, 647-663.
31. C.-B. Cheng and E. S. Lee, 2001, Fuzzy regression with radial basis function network, *Fuzzy Sets and Systems*, 119, 291-301.
32. C.-B. Cheng, 2000, Multi-response optimization based on a neuro-fuzzy system, *Neural Network World*, 10(4), 545-551.
33. C.-B. Cheng and E. S. Lee, 1999, Response surface based on fuzzy adaptive network, *International Journal of Fuzzy Systems*, 1(1), 14-24.
34. C.-B. Cheng and E. S. Lee, 1999, Nonparametric fuzzy regression – k-NN and kernel smoothing techniques, *Computers and Mathematics with Applications*, 38(3/4), 239-251.
35. C.-B. Cheng and E. S. Lee, 1999, Applying fuzzy adaptive network to fuzzy regression analysis, *Computers and Mathematics with Applications*, 38(2), 123-140.

■ Conferences

1. C.-B. Cheng, 2011, A location based dial-a-ride service system for the elderly and the disabled in Taiwan, The 4th International Conference on Ubi-Media Computing, July 3-4, Sao Paulo, Brazil.
2. C.-B. Cheng, 2009, Bidding decision in reverse auction solved by fuzzy mathematical programming and genetic algorithm, The 2nd IFAC International Conference on Intelligent Control Systems and Signal Processing, Sep. 21-23, Istanbul.
3. H.-S. Shih, C.-B. Cheng, U.-P. Wen, and M.-Y. Peng, 2009, Recycling subsidy rate decision by bi-level programming, Proceedings of the Eighth International Conference on Information and Management Sciences, Jul. 20-28, Kunming & Banna, China
4. C.-B. Cheng, Y.-R. Syau, and R.-T. Tzeng, 2008, Solving a seal-bid reverse auction by fuzzy multiple objective programming, Proceedings of 2008 Information Processing and Management of Uncertainty in Knowledge-Based Systems, Jun. 22-27, Malaga, Spain
5. C.-J. Cheng and C.-B. Cheng, 2007, Robust control for uncertain cellular neural networks with time-varying delays and input nonlinearity, Proceedings of 2007 CACS International Automatic Control Conference, Nov. 9-11, Taichung, Taiwan

6. C.-B. Cheng and Z.-Y. Liu, 2006, Fuzzy inventory control of a supply chain, Proceedings of the 10th WSEAS International Conference on Systems, Jul. 10-12, Athens, Greece.
7. Y.-R. Syau, C.-B. Cheng, and C.-J. Fu, 2006, A neuro-fuzzy approach for equity valuation based on fundamental analysis, Proceedings of the International Conference of the North American Fuzzy Information Processing Society (NAFIPS 2006), Jun. 3-6, Montreal, Canada. (EI)
8. Y.-R. Syau, C.-B. Cheng, and H. Y. Chen, 2005, Fuzzy radial basis function network in financial credit rating, Proceedings of the Third International Conference on Computational Intelligence, Robotics and Autonomous Systems, Dec. 13-16, Singapore.
9. C.-B. Cheng, C.-C. H. Chan, and C.-C. Lin, 2005, Buyer-supplier negotiation by fuzzy logic based agents, Proceedings of the third International Conference on Information Technology and Applications, Jul. 4-7, Sydney, Australia, 137-142.
10. C.-L. Chen, C.-J. Fu, and C.-B. Cheng, 2004, Financial distress prediction by a radial basis function network, Proceedings of the 10th International Conference on Cybernetics and Information Technologies, Systems and Applications, Jul. 21-25, Orlando, 32-37.
11. C.-B. Cheng, 2004, Fuzzy numbers in group opinion aggregation and its applications to a quality function deployment problem, Proceedings of the 10th International Conference on Cybernetics and Information Technologies, Systems and Applications, Jul. 21-25, Orlando, 43-48.
12. C.-B. Cheng, 2003, Fuzzy process control based on fuzzy regression and possibility measures, Proceedings of the 22nd International Conference of the North American Fuzzy Information Processing Society, Jul. 24-26, Chicago, 127-131. (EI)
13. C.-B. Cheng, 2003, Fuzzy number construction based on a grading process, Proceedings of International Conference on Fuzzy Information Processing: Theories and Applications, Mar. 1-4, Beijing, China, 113-116.
14. C.-B. Cheng, 2003, Some notes on the nearest-neighbor retrieval in case-based reasoning, Proceedings of the Fourth International Conference on Operations and Quantitative Management, Jan. 2-5, Tainan, Taiwan.
15. C.-B. Cheng, 2001, Fuzzy regression analysis by a fuzzy neural network and its application to dual response optimization, Proceedings of the Joint 9th IFSA World Congress and 20th NAFIPS International Conference, Jul. 25-28, Vancouver, Canada, 2681-2686.
16. C.-B. Cheng and E.S. Lee, 1999, Neuro-fuzzy network in non-parametric regression – an example in welding quality control, Proceedings of the 8th International Fuzzy Systems Association World Congress, Aug. 16-20, Taipei, Taiwan.

17. C.-B. Cheng, 1999, Techniques and applications of two fuzzy regression tools-fuzzy radial basis function network and fuzzy adaptive network, Proceeding of the 1999 Pacific Asia Conference on Expert Systems, Feb. 11-12, Los Angels.
18. C.-B. Cheng and E.S. Lee, 1997, Radial basis function network in fuzzy regression analysis, Proceedings of the 5th European Congress on Intelligent Techniques and Soft Computing, Sep.8-12, Aachen, Germany.

■ Book chapters

1. E. S. Lee and C.-B. Cheng, 2003, Fuzzy regression analysis via neuro-fuzzy network and its application to system modeling and optimization, contributed chapter in *Computational Mathematics, Modeling and Algorithms* (J.C. Misra, ed.), Narosa Publishing House, New Delhi, India.
2. H.-W. Chu, J. Aguilar, J. Ferrer, Y.-R. Syau, and C.-B. Cheng, 2004, Proceedings of CITSA 2004, V. III: Communications, Information and Control Systems, Technologies and Applications, International Institute of Informatics and Systemics.