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Education

Ph.D. (Information Engineering), Industrial and Information Engineering Dept., University of Tennessee, Knoxville, 2006.
M.S. (Thermal Science), Mechanical Engineering Dept., University of Lagos, Nigeria, 1999.
B.S. Mechanical Engineering Dept., Lagos State University, Nigeria, 1995.

Professional Experience

- Oct. 2006 – present: Research Associate, Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- Feb. 2006 – Sept. 2006: Post-Doctoral Fellow, McMaster University, Hamilton, ON, Canada.
- Aug. 2002 – May 2006, Research Assistant, Industrial Engineering, Univ. Tennessee, Knoxville.
- Aug. 2003 – July 2005, Instructor, Industrial Engineering, Univ. Tennessee, Knoxville.
- June 1995 – Jan. 2001, Project Engineer, Mobil Producing Nigeria.

Professional Activities

- Workshop/Session Co-Chair: International Workshop on Knowledge Discovery from Sensor Data (Sensor-KDD'07; Sensor-KDD'08) of the ACM; Software Tools for Engineering Economic Analysis of the IIE Annual Meeting 2005.
- *Workshop Program Committee Member*, International Workshop on Knowledge Discovery from Ubiquitous Data Streams at the 18th European Conference on Machine Learning (ECML) and the 11th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD), September 17-21, 2007.
- Co-Principal Investigator: Hybrid NeuroFuzzy Expert System for Crime Investigation; the University of Tennessee Law Enforcement Innovation Center (05/2003 – 06/2004).
- Co-Principal Investigator: Statistical Factor Analysis of Industrial Development Variables for Economic Development in East Tennessee; the University of Tennessee Scholarly Activity Research Incentive Fund (05/2002 – 07/2002).
- Board Member: Engineering Economy Division of the IIE (05/2002 – 05/2006).
- Peer Reviewer: Soft Computing Journal; IEEE Transactions on Systems, Man and Cybernetics – Part B: Cybernetics; Journal of Dynamics of Continuous, Discrete and Impulsive Systems – Part B: Applications and Algorithms; Journal of Optimization Methods and Software.

ORNL Invention Disclosures (New invention under patentability review)

1. Ganguly, A. R. and **Olufemi A. Omitaomu**. (Anomaly Analysis for Security)

Publications

Book

1. Adedeji B. Badiru and **Olufemi A. Omitaomu** (2007). *Computational Economic Analysis for Engineering and Industry*. New York, NY: CRC Press.

Edited Book

2. Ganguly, A.R., Gama, J., **Olufemi A. Omitaomu**, Gaber, M.M., and R.R. Vatsavai (2008): **Knowledge Discovery from Sensor Data**. CRC Press, Taylor & Francis Group (To Appear).

Journal Publications

3. **Olufemi A. Omitaomu**, Myong K. Jeong, Adedeji B. Badiru, and J. Wesley Hines (2007). On-Line Support Vector Regression Approach for the Monitoring of Motor Shaft Misalignment and Feedwater Flow Rate. *IEEE Transactions on Systems, Man, and Cybernetics: Part C- Applications and Review*, **37(5)**: 962-970.
4. Yongjin Kwon, **Olufemi A. Omitaomu**, and Gi-Nam Wang (2007). Data Mining Approaches to Modeling Complex Electronic Circuit Design Activities. *Journal of Computers and Industrial Engineering*, **54(2)**: 229-241.
5. Seong-Hoon Cho, **Olufemi A. Omitaomu**, Neelam Poudyal, and David B. Eastwood (2007). The Impact of an Urban Growth Boundary on Land Development in Knox County, Tennessee: A Comparison of Two-Stage Probit Least Squares and Multilayer Neural Network Models. *Journal of Agricultural and Applied Economics*, **39**: 701-717.
6. **Olufemi A. Omitaomu** and Adedeji B. Badiru (2007). Fuzzy Present Value Analysis Model for Evaluating Uncertainties in Information System Projects. *The Engineering Economist*, **52(2)**: 157-178.
7. **Olufemi A. Omitaomu**, Myong K. Jeong, Adedeji B. Badiru, and J. Wesley Hines (2006). On-line Prediction of Motor Shaft Misalignment Using Fourier-Transformed Power Spectrum Data and Support Vector Regression. *ASME Journal of Manufacturing Science and Engineering*, **128(4)**: 1019-1024.
8. Adedeji B. Badiru, Sunday O. Asaolu, and **Olufemi A. Omitaomu** (2006). Eyewitness Information Management System Using NeuroFuzzy Classification Schemes. *Journal of Information Science and Technology*, **2(3)**: 49-64.
9. Yongjin Kwon, Myong K. Jeong, and **Olufemi A. Omitaomu** (2006). Adaptive Support Vector Regression Analysis of Closed-Loop Inspection Accuracy. *Journal of Machine Tools and Manufacture*, **46(6)**: 603-610.
10. **Olufemi A. Omitaomu**, Levi D. Smith, and Adedeji B. Badiru (2005). The ENGINEering Economic Analysis (ENGINEA) Software: Enhancing Teaching and Application of Economic Analysis Techniques. *ASEE Computers in Education Journal*, **15(4)**: 32-38.
11. Adedeji B. Badiru and **Olufemi Omitaomu** (2003). Design and Analysis of Tent Cash Flow Models for Engineering Economy Lectures. *The Engineering Economist*, **48(4)**: 363-374.

Peer-Reviewed Journal Manuscripts in Review/Revision

12. **Olufemi A. Omitaomu**, Auroop R. Ganguly, Bruce W. Patton, and Vladimir A. Protopopescu (in revision). Anomaly Detection in Radiation Sensor Data with Application to Transportation Security. *IEEE Transactions on Intelligent Transportation Systems*.
13. **Olufemi A. Omitaomu**, Myong K. Jeong, Adedeji B. Badiru, and Junshui Ma (in review). On-Line Support Vector Regression with Adaptive Weighting Parameters for Time-Dependent Data. *IEEE Transactions on Systems, Man, and Cybernetics: Part A*.
14. **Olufemi A. Omitaomu**, Auroop R. Ganguly, and Vladimir A. Protopopescu (to be submitted). Empirical Mode Decomposition Approach for Denoising Signals. *IEEE Transactions on Systems, Man, and Cybernetics: Part C*.

Peer-Reviewed Book Chapters

15. Myong K. Jeong, Seong G. Kong, and **Olufemi A. Omitaomu** (2008) Data Mining of Multi-Dimensional Functional Data for Manufacturing Fault Diagnosis. In T. Warren Liao and Evangelos Triantaphyllou (Eds.), *Recent Advances in Data Mining of Enterprise Data: Algorithms and Applications*. Hackensack, NJ: World Scientific, pp. 463-503.
16. Auroop R. Ganguly, **Olufemi A. Omitaomu**, and Randy M. Walker (2007) Knowledge Discovery from Sensor Data for Security Applications. In Joao Gama and Mohamed Medhat Gaber (Eds.), *Learning from Data Stream - Processing Techniques in Sensor Networks*. New York, NY: Springer, pp. 187-204.
17. Auroop R. Ganguly, **Olufemi A. Omitaomu**, Yi Fang, Shiraj Khan, and Budhendra L. Bhaduri (2007) Knowledge Discovery from Sensor Data for Scientific Applications. In Joao Gama and Mohamed Medhat Gaber (Eds.), *Learning from Data Stream - Processing Techniques in Sensor Networks*. New York, NY: Springer, pp. 205-229.
18. **Olufemi A. Omitaomu** (2006). Engineering Economic Evaluation. In Adedeji B. Badiru (Ed.), *Handbook of Industrial and Systems Engineering*, New York, NY: CRC Press.

19. **Olufemi A. Omitaomu** (2006). Decision Trees. In Michael W. Berry and Murray Browne (Eds.), *Lecture Notes in Data Mining*: 39-51, New Jersey, NJ: World Scientific Publishing of Hackensack.
20. **Olufemi A. Omitaomu** (2006). Clustering: Categorical Attributes. In Michael W. Berry and Murray Browne (Eds.), *Lecture Notes in Data Mining*: 143-152, New Jersey, NJ: World Scientific Publishing of Hackensack.

Peer-Reviewed Conference Publications

21. **Olufemi A. Omitaomu**, Myong K. Jeong, Adedeji B. Badiru, and J. Wesley Hines (2005). A support vector regression approach to machinery misalignment prediction using high-dimensional power spectrum data. *Proceedings of the 2005 Maintenance and Reliability Conference (MARCON 2005)*, Gatlinburg, Tennessee, May 3-6.
22. **Olufemi A. Omitaomu**, Levi D. Smith, and Adedeji B. Badiru (2005). The Design and Development of the ENGINEering Economic Analysis (ENGINEA) Software. *Proceedings of the Institute of Industrial Engineers Research Conference (IERC)*, Atlanta, Georgia, May.
23. Adedeji B. Badiru, **Olufemi A. Omitaomu**, Godswill Nsofor, and Lynn A. York (2005). Concept of Program Management: Product Assurance of Command and Control Processes. *Proceedings of the 10th International Command and Control Research and Technology Symposium (CCRTS): The Future of C2*. McLean, VA. June 13-16.
24. **Olufemi Omitaomu** and Adedeji B. Badiru (2004). Incorporation of Information Systems Economics into Engineering Economic Analysis Courses. *Proceedings, ASEE 2004 Annual Conference and Exposition, Engineering Education Researches New Heights*, 2004, pp. 7177-7182.
25. **Olufemi Omitaomu**, C. Godswill Nsofor, and Adedeji B. Badiru (2004). Integrative Present Value Analysis Model for Evaluating Information System Projects. *Proceedings of the Institute of Industrial Engineers Research Conference (IERC)*, Houston, Texas, May.
26. Adedeji B. Badiru, Vincent Delgado, Jamie Ehresman-Gunter, **Olufemi Omitaomu**, Godswill Nsofor, Sirisha Saripalli (2004). Graphical and Analytical Methodology for Cost Benchmarking for New Construction Projects. *Proceedings of 13th International Conference on Management of Technology (IAMOT)*, Washington, DC, April 3-7.
27. Adedeji B. Badiru and **Olufemi Omitaomu** (2003). Tent Cash Flow Designs and Analysis for Gradient Cash Flow Lectures. *Proceedings of the 2003 ASEE Annual Conference and Exposition: Staying in Tune with Engineering Education*, 2003, pp. 3427-3441.
28. Adedeji B. Badiru, Don McDaniel, and **Olufemi Omitaomu** (2003). An Integrative Study of Factors of Industrial Development in East Tennessee. *Proceedings of the 31st International Conference on Computers and Industrial Engineering*, San Francisco, California, February.
29. Adedeji B. Badiru and **Olufemi Omitaomu** (2002). Application of Data Mining to Maintenance Management Systems. *Proceedings of the 6th Africa-USA International Conference in Manufacturing Technology*, Abuja, Nigeria, May.
30. Adedeji B. Badiru, **Olufemi Omitaomu**, and F.B. Odunayo (2001). Design of a Matrix Knowledge Base Framework for Plant Maintenance Planning and Control. *Proceedings of the 2001 Maintenance and Reliability Conference*, Gatlinburg, Tennessee, May.

Conference Presentations

31. Randy M. Walker, **Olufemi A. Omitaomu**, Ganguly, A.R., Abercrombie, R.K., and F.T. Sheldon (2007): *Multimodal Integrated Safety, Security, and Environmental Program Strategy*, Transportation Research Board, 87th Annual Meeting, January 2008, Washington, DC, 08-2644.
32. Auroop R. Ganguly, **Olufemi A. Omitaomu**, Vladimir Protopopescu, Bruce Patton, Randy Walker, Yi Fang, Amrudin Agovic, and Arindam Banerjee (2007): *Anomaly Detection from Heterogeneous Sensor Data with Application to Transportation Security*, 2007 National Rural Intelligent Transportation Systems Conference, Oct. 7-10, Traverse City, Michigan.
33. Auroop R. Ganguly, J. Gama, **Olufemi A. Omitaomu**, M.M. Gaber, and R.R. Vatsavai [Editors] (2007): *Workshop Proceedings*, First International Conference on Knowledge Discovery from Sensor Data (Sensor-KDD'07), the Thirteenth International Conference on Knowledge Discovery and Data Mining (KDD 2007), San Jose, CA, August.

34. Yi Fang, Auroop R. Ganguly, and **Olufemi A. Omitaomu** (2007). Mixture of Probabilistic Principal Component Analyzers for Anomaly Detection. *Presented at the First International Workshop on Knowledge Discovery from Sensor Data*, August 15, San Francisco.
35. **Olufemi A. Omitaomu** and Jiming Peng (2006). Wavelet-Based Feature Selection for High-Dimensional Data via Mathematical Programming. *Presented at the Modeling and Optimization: Theory and Application (MOPTA) Conference*, July 24 – 27, University of Waterloo, Waterloo, Canada.
36. **Olufemi A. Omitaomu**, Myong K. Jeong, Adedeji B. Badiru, and J. Wesley Hines (2005). Motor Shaft Alignment Prediction Using On-line Support Vector Regression. *Presented at the INFORMS Annual Conference*, November 13-16, San Francisco, California.
37. Adedeji B. Badiru and **Olufemi Omitaomu** (2003). Integrative Learning and Forgetting Models for Quality and Productivity Improvement Analysis. *Presented at the INFORMS Annual Conference*, October, Atlanta, Georgia.

ORNL Technical Report

38. Ganguly, A.R., Whitmeyer, J.M., **Olufemi A. Omitaomu**, Hadzikadic, M., Gilman, P., Brecke, P.K., Khouja, M.J., Fernandez, S.J., Eichelberger, C.N., McLean, A.L., Yu, J., Middleton, E.J., Carmichael, T.D., Saric, A. and M. Sun (2008): Towards a characterization and systematic evaluation framework for theories and models of human, societal, behavioral, and cultural processes, ORNL/TM-2008/062, **Oak Ridge National Laboratory** (In Review).