Janusz Wojtusiak

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Education

2003 - 2007 Ph.D. in Computational Sciences and Informatics (Concentration in Computational Intelligence and Knowledge Mining), College of Science, George Mason University, Fairfax, VA.

2001 - 2003 Ph.D. Student and Researcher at the Institute of Computer Science, Jagiellonian University, Krakow, Poland. Transferred to GMU.

1996 - 2001 M.Sc. with honors in Computer Science at the Jagiellonian University, Krakow, Poland.

Employment

2011-current Research Coordinator (WOC), Bay Pines VA Healthcare System, Department of Veterans Affairs.

2014-current Associate Professor (tenured), Department of Health Administration and Policy, College of Health and Human Services, George Mason University. Additional responsibilities include:

2012-current Chief, Health Informatics Program

2010-2012 Coordinator, Health Information Systems Management M.S. Concentration.

2010-current Director, Center for Discovery Science and Health Informatics, George Mason University

2008-2014 Assistant Professor (tenure track)

2007-current Director, Machine Learning and Inference Laboratory, George Mason University

2008 – 2008 Post-doctoral fellow, Department of Health Administration and Policy, College of Health and Human Services, George Mason University

2003 – 2007	Graduate Research Assistant at the School of Computational Sciences, George Mason University. System and Website Manager at the Machine Learning and Inference Laboratory.
2002 – 2002	Visiting Scientist, Machine Learning and Inference Laboratory, George Mason University, Fairfax, VA.
1999 - 2002	Computer Systems Specialist at Micros Company, Krakow, Poland.

Teaching

2013 - current	Data Mining in Health Care (HAP 780), George Mason University
2012 - current	Advanced Health Information Systems (HAP 752), George Mason University
2008 - current	Decision Analysis in Healthcare (HAP 730), George Mason University
2008 – 2011	Healthcare Databases (HAP 709), George Mason University
2001 – 2002	Laboratories in *Digital Circuits* on Master's level at the Institute of Computer Science, Jagiellonian University
2001 – 2002	Laboratories in *Computer Simulation* on Master's level at the Institute of Computer Science, Jagiellonian University
2001 – 2002	Laboratories in *Methods of Artificial Intelligence* on Master's level at the Institute of Computer Science, Jagiellonian University

Main Research Interests

My work involves methodological work in machine learning and intelligent systems, as well as applications of intelligent systems to solve healthcare problems. The methodological part consists of development of new methods and algorithms, their analysis, and the study of theoretical background. The second theme consists of applications of the developed methods in healthcare. This research intersects several areas including Health Informatics, Clinical Decision Support, Data Mining and Knowledge Discovery, Comparative Effectiveness, Artificial Intelligence, Machine Learning, Evolutionary Computation, Intelligent Optimization and Design, Knowledge Mining. Numerous projects I am involved in follow these two themes and a common methodology.

Grant Support/External Funding

Logistic Management Institute, October 1, 2015 – September 30, 2016
Integrating Complex Health Data for Analytics
Role: PI

Jeffers Foundation, August 31, 2015 – August 30, 2016
Applying the Ontology-guided Machine Learning to analyze the Surveillance, Epidemiology, and End Results Program-Medicare Health Outcomes Survey (SEER-MHOS) Linked Database,
PI: Hua Min, co-PI: Janusz Wojtusiak

National Institute of Standards and Technology/Dakota Consulting, August 18, 2014 – August 17, 2015
Expanded Capabilities for EVAP-COND Heat Exchanger Design Tool Engineering Laboratory
Position: Principal Investigator

Department of Veterans Affairs/Green Technologies, October 1, 2013 – Sept. 30, 2014
Data Analysis for Artificial Intelligence
Position: Principal Investigator
Description: The project concerns analyzing data to improve quality of care in the VA. It consists of three main subprojects: ICU mortality index, causes and prediction of heart failure readmissions, and home care quality and cost analysis.

National Institute of Standards and Technology, September 1, 2013 – February 28, 2014
Implementation of Dual Evaporator-Condenser Mode in Intelligent Evolutionary Optimization system ISHED
Position: Principal Investigator

American Society for Healthcare Risk Management, January 1, 2013–December 31, 2013
Designing Highly Reliable Adverse-Event Detection Systems
Position: co-PI
Principal Investigator: Lorens Helmchen
Description: This project seeks to combine and analyze existing risk-management databases at a large hospital system in Northern Virginia to improve the accuracy and efficiency of adverse event reporting and detection systems. Machine learning methods are used to predict outcomes of submitted reports.

American Cancer Society
Patient-Centered Medical Homes and Care of Cancer Survivors
Position: co-PI
Principal Investigator: Jack Hadley
Description: The primary objective of the study is to measure the extent to which primary care medical practices (both those recognized as PCMHs and others) apply key elements of the model in caring for cancer survivors, electronic monitoring of medication regimens, family engagement and active discussion and consideration of end of life care.

Robert Wood Johnson Foundation, October 1, 2012 – September 30, 2014
Medicare Payments, Market Structure, and Choice of Initial Management Strategy for Prostate Cancer in Medicare Fee-for-Service Beneficiaries
Position: Co-PI
Principal Investigator: Jack Hadley

Department of Veterans Affairs, December 1, 2011 – September 30, 2015
Evaluation of Medical Foster Homes
Position: GMU PI, IPA

National Institute of Standards and Technology, September 1, 2011 – February 28, 2013
Simplicity-based and Dual Optimization in the ISHED System
Position: Principal Investigator

Cochrane Collaboration Fellowship September 2011 – May, 2012
Federally Qualifying Health Clinics: Systematic Review Using Traditional and Machine Learning Based Methods
Position: Principal Investigator (co-investigator with John Cantiello)

George Mason University Summer Faculty Research, June – August 2011
Literature-based Individualized Comparative Effectiveness
Position: Principal Investigator
Mason-Inova Fund, September 1, 2010 – August 31, 2012
Development and Testing of Artificial Intelligence Application for Healthcare Financial Management
Position: Principal Investigator (co-PI John Shiver)
Description: The project uses computational methods to investigate disparities between billed and paid amounts in a hospital system. The project's goal is to detect regularities in unpaid or partially paid bills, and create a screening mechanism for early detection of potential non-payments.

National Institute of Standards and Technology, 60NANB9D9151, September 1, 2010 – August 30, 2011
Intelligent Evolutionary Design: New Algorithms in ISHED and EVAP-COND Systems
Position: Principal Investigator
Description: Continuation and extension of the pilot successful project. The project investigates an intelligent optimization method and its application in engineering design. Although not directly healthcare related, the project is based on the same methodology as other projects. The project funds development of software and methods that are used also in healthcare related projects (i.e., comparative effectiveness, decision support).

National Institute of Standards and Technology, 60NANB9D9151, July 1, 2009 – June 30, 2010 (extension until August 30, 2010)
Investigation and Development of New Features in Intelligent Heat Exchanger Design
Position: Principal Investigator

Description: The project investigates an intelligent optimization method and its application in engineering design. Although not directly healthcare related, the project is based on the same methodology as other projects. The project funds development of software and methods that are used also in healthcare related projects (i.e., financial data management, comparative effectiveness, decision support).

National Science Foundation, CBET 0742487, October 1, 2007 – September 30, 2008
Computational Intelligence and Machine Learning Virtual Infrastructure Network
Position: Researcher, developed a method for collaboration with healthcare community, participated in development of the project web portal.
Principal Investigator: Jacek M. Zurada & James Gentle
Description: The goal of the project is to create infrastructure for collaboration within the computational intelligence and machine learning community, and with researchers, students, and practitioners from other disciplines. The primary focus is in collaboration with the healthcare community.

National Security Agency, LUCITE #32, February 10, 2003 – February 9, 2004
Learning User Behavior and Understanding Style: The Natural Induction Approach
Position: Graduate Research Assistant, co-developed software and methodology, performed experimental evaluation of the method.
Principal Investigator: Ryszard S. Michalski
Description: The project investigates an intelligent method able to detect intruders in computer systems and misuse of data and computer systems.

National Science Foundation, IIS 0097476, December 31, 2001 – August 31, 2007
Non-Darwinian Evolutionary Computation: Guiding Evolution by Machine Learning
Position: Graduate Research Assistant, co-developed methodology and software in the project. PhD dissertation related to the project.
Principal Investigator: Ryszard S. Michalski
Description: The project investigates an intelligent evolutionary optimization method. The method is particularly suitable for hard optimizations problems.

National Science Foundation, IIS 9906858, May 31, 2001 – September 30, 2007.
Inductive Databases and Knowledge Scouts
Position: Graduate Research Assistant, implemented software, co-developed and published several methods related to the project.
Principal Investigator: Ryszard S. Michalski
Description: The project investigates database systems capable of inferring plausible answers to queries for which no explicit data is available.

Selected Conferences, Workshops, Editorship and Community Service

- National Science Foundation proposal reviewer and panelist in the Division of Intelligent and Information Systems
- Polish Science Foundation proposal reviewer in Machine Learning
- Kentucky Science Foundation proposal reviewer
- Editorial Board, Computer Science Journal, AGH press

- Non-Darwinian Evolutionary Computation track at IEEE International Conference on Tools With Artificial Intelligence 2006 (co-organizer)
- Special track on CIML Virtual Organizations at IEEE World Congress on Computational Intelligence 2008 (co-organizer)
- Workshop on Building CIML Virtual Organizations 2008 (local organizer, reviewer, proceedings co-editor)
- International Conference on Complex, Intelligent, and Software Intensive Systems, 2011, Seoul, Korea (co-chair of the track on Artificial Intelligence and Agent Technology, and program committee member)
- Associate editor, Encyclopedia of the Sciences of Learning, Springer, 2011
- Editor, Reports of the Machine Learning and Inference Laboratory, George Mason University
- Area and Grand Prize judge at Fairfax County Regional Science Fair

Peer Reviewer (selected journals and conferences)

- Applied Clinical Informatics
- Theoretical Computer Science
- IEEE Transactions on Evolutionary Computation
- International Conference on Tools with Artificial Intelligence
- International Workshop on Knowledge Discovery in Inductive Databases
- Joint Conference on Neural Networks
- International Conference on Mobile Ubiquitous Computing, Systems, Services, and Technologies
- HIMSS Annual Conference
- HealthInf Conference
- International Journal of Computers and Applications
- American Medical Informatics Association Annual Conference
- Concurrency and Computation: Practice and Experience
- International Journal of Medical Infomratics

Awards

6/01 Master's degree with honors

12/07 Best poster presentation award at the Sixth International Conference on Machine Learning and Applications

5/08 George Mason University Department of Computational and Data Sciences Award for Outstanding Doctoral Work

5/16 Shirley S. Travis Habit of Excellence Award for 2016

Selected National and International Collaboration

2007 - 2012 University of Louisville, KY
2007 - 2013 University of Bremen, Germany
2010 - Current AGH University of Science and Technology, Poland
2013 – Current SimCOST multinational European Initiative on HPC
2015 – Current George Washington University

Publications and Presentations

Journal

1. ElRafey, A., & Wojtusiak, J. (2017). Recent advances in scaling- down sampling methods in machine learning. *Wiley Interdisciplinary Reviews: Computational Statistics*.
2. Min, H., Avramovic, S., Wojtusiak, J., Khosla, R., Fletcher, R.D., Alemi, F., & Elfadel, K.R. (2017). A comprehensive multimorbidity index for predicting mortality in intensive care unit patients. *Journal of palliative medicine*, *1; 20*(1),35-41.
3. Min, H., Mobahi, H., Irvin, K., Avramovic, S., & Wojtusiak, J. (2017). Predicting activities of daily living for cancer patients using an ontology-guided machine learning methodology. *Journal of Biomedical Semantics*, *16; 8*(1),39.
4. Kheirbek, R., Wojtusiak, J., Alemi, F., & Vlaicu, S. (2016). Lack of evidence for racial disparity in 30-day all-cause readmission rate for older US veterans hospitalized with heart failure. *Quality Management in Health Care*, *25*(4), 191 196.
5. Wojtusiak, J., Alemi, F., Levy, C., & Williams, A. (2016). Predicting functional decline and recovery following hospitalization of residents in veterans affairs nursing homes. *The Gerontologist*, *56* (1), 42-51.
6. Levy, C., Zargoush, M., Williams, A., Williams, A.R., Giang, P., Wojtusiak, J., Kheirbek, R., & Alemi, F. (2016). Sequence of functional loss and recovery in nursing homes. *The Gerontologist*, *56* (1).
7. Levy C., Alemi F., Williams A.E., Williams A.R., Wojtusiak J., Sutton B., P Giang, Pracht, E., & Argyros, L. (2015). Shared homes as an alternative to nursing home care: impact of VA's medical foster home program on hospitalization. *The Gerontologist*, *56*(1).
8. Helmchen, L.A., Burke, M.E., Wojtusiak, J. (2015). Designing highly reliable adverse-event detection systems to predict subsequent claims. *Journal of Healthcare Risk Management*, *34*(4):7-17.
9. Levy, C., Kheirbek, R., Alemi, F., Wojtusiak, J., Sutton, B., Williams, A.R., Williams, A. (2015). Predictors of 6-month mortality among nursing home residents: diagnoses maybe more predictive than functional disability. *Journal of Palliative Medicine, 18*(2):100-6.
10. Ngufor, C., & Wojtusiak, J. (2014). Learning from large distributed data: a scaling down sampling scheme for efficient data processing. *International Journal of Machine Learning and Computing* (IJMLC), *4*(3), 216-224.

11. Domanski, P.A., Brown, J.S., Heo, J., Wojtusiak, J., & McLinden, M.O. (2014). "A thermodynamic analysis of refrigerants: Performance limits of the vapor compression cycle," International Journal of Refrigeration,38, 71-79.
12. Ngufor, C., & Wojtusiak, J. (2013). Unsupervised labeling of data for supervised learning and its application to medical claims prediction. *Computer Science Journal*, AGH Press, 14, 2, 191-214.
13. Wojtusiak, J., Warden, T., & Herzog, O. (2012). Machine learning in agent-based stochastic simulation: Inferential theory and evaluation in transportation logistics. *Computers & Mathematics with Applications*, 64, 12, 3658-3665.
14. Wojtusiak, J., Warden, T., & Herzog, O. (2012). The learnable evolution model in agent-based delivery optimization. *Memetic Computing*, 4, 3, 165-181.
15. Yashar, D., Wojtusiak, J., Kaufman, K., & Domanski, P.A. (2012). A dual mode evolutionary algorithm for designing optimized refrigerant circuitries for finned tube heat exchangers. *HVAC&R Research*, 18, 5, 834-844.
16. Michalski, R. S., & Wojtusiak, J. (2012). Reasoning with missing, not-applicable and irrelevant meta-values in concept learning and pattern discovery. *Journal of Intelligent Information Systems*, 39, 141-166, Springer.
17. Wojtusiak, J., Gewa, C.A., & Pawloski, L.A. (2011). Dietary assessment in Africa: integration with innovative technology," *African Journal of Food, Agriculture, Nutrition, and Development*, 11, 7.
18. Landon, B.E. , Reschovsky, J.D. , Pham, H.H., Kitsantas, P., Wojtusiak, J., & Hadley, J. (2009). Creating a parsimonious typology of physician financial incentives," *Health Services and Outcomes Research Methodology*, 9, 219-233.
19. Wojtusiak, J., Chorowski, J., Pietrzykowski, J., & Zurada, J. M. (2009). Searching and reasoning with distributed resources in computational intelligence and machine learning. *Journal of Applied Computer Science Methods*, 1, 2.
20. Wojtusiak, J., Michalski, R. S., Simanivanh, T., & Baranova, A. V. (2009). Towards application of rule learning to the meta-analysis of clinical data: An example of the metabolic syndrome. *International Journal of Medical Informatics*, 4, 1, pp. 43-54.
21. Wojtusiak, J. (2009). The LEM3 system for multitype evolutionary optimization. *Computing and Informatics*, 28, pp. 225-236.
22. Zurada, J. M., Mazurowski, M.A., Abdullin, A., Ragade, R., Wojtusiak, J., & Gentle, J. E. (2009). Building virtual community in computational intelligence and machine learning. *Computational Intelligence Magazine*, 4, 1, pp. 43-54.
23. Wojtusiak, J. & Michalski, R. S. (2008). Analyzing diaries for analytical relapse prevention using natural induction: A method and preliminary results," *Quality Management in Health Care*, 17.
24. Wojtusiak, J. (2007). Handling constrained optimization problems and using constructive induction to improve representation spaces in learnable evolution model. *SIGEVOlution*, Dissertation Corner, *2*(3), 24-25.

Peer-Reviewed Papers in Proceedings

25. Wojtusiak, J., Elashkar, E., & Mogharab, N. R. (2017). C-LACE: Computational model to predict 30-day post-hospitalization mortality. *HealthInf*.
26. Min, H., Mobahi, H., Vukomanovic, S., Irvin, K., Krasniqi, I., Avramovic, S., & Wojtusiak, J. (2016). Applying an ontology-guided machine learning methodology to SEER-MHOS dataset, *Bio-Ontologies*.
27. Madison, S., & Wojtusiak, J. (2015). Engaging students in health informatics research: strategies for success. Presentation at HIMSS 2015 Annual Conference, AUPHA academic forum, Chicago, IL.
28. Ngufor, C., & Wojtusiak, J. (2014). Extreme logistic regression: A large-scale learning algorithm with application to prostate cancer mortality prediction. Proceedings of the The 27th International Florida Artificial Intelligence Research Society Conference.
29. Talha O.Z., & Wojtusiak, J. (2014, May). Turkish news audience and their political leanings on twitter. 7th Political Networks Conference (PolNet), Montreal, QC May 2014.
30. Talha O.Z., & Wojtusiak, J. (2014, February). Specialty and physician referral network. International Sunbelt Social Network Conference XXXIV (INSNA), St. Pete Beach, FL.
31. Ngufor, C., & Wojtusiak, J. (2013). Learning from large-scale distributed health data: An approximate logistic regression approach. *International Conference on Machine Learning, Workshop on Role of Machine Learning in Transforming Healthcare*.
32. Wojtusiak, J. (2012, December 12). Semantic data types in machine learning from healthcare data. *Proceedings of the International Conference on Machine Learning and Applications*, ICMLA, Boca Raton, Florida.
33. Min, H., & Wojtusiak, J. (2012, November 2). Clinical data analysis using ontology guided rule learning. *Proceedings of the 2nd international workshop on Managing interoperability and compleXity in health systems*, pp. 17-22, Maui, HI, USA.
34. Wojtusiak. J., Irvin, K., Birerdinc, A., & Baranova, A. (2011). Using published medical results and non-homogenous data in rule learning. ICMLA 2011.
35. Wojtusiak, J., Ngufor, C., Shiver, J., & Ewald, R. (2011). Rule-based prediction of medical claims' payments: A method and initial application to Medicaid data ICMLA 2011.
36. Wojtusiak, J., Warden, T., & Herzog, O. (2011). Agent-based pickup and delivery planning: The learnable evolution model approach. CISIS 2011, Seoul, Korea.
37. Sniezynski, B., Wojcik, W., Gehrke J. D., & Wojtusiak, J. (2010, December 12-14). Combining rule induction and reinforcement learning: An agent-based vehicle routing. *Proceedings of the Ninth International Conference on Machine Learning and Applications (ICMLA 2010)*, Washington D.C., pp. 851-856.
38. Yashar, D., Domanski, P. A., Wojtusiak, J., & Kaufman, K. (2010, June 26-30). Evolutionary Computation Approach to Heat Exchanger Optimization," *Proceedings of the American Society of Heating, Refrigerating and Air Conditioning Engineers Annual Conference*, Albuquerque, NM.

39. Wojtusiak, J., Prior, S., & Thompson, D. (2010, March 17-18). Adaptive infrastructure protection: Machine-learning approach to data collection. *Workshop on Grand Challenges in Modeling, Simulation, and Analysis for Homeland Security* (MSAHS-2010), Arlington, VA.
40. Zurada, J. M., Wojtusiak, J., Mazurowski, M.A., Mehta, D., Moidu, K., &Margolis, S. (2008, October 24). Toward multidisciplinary collaboration in the CIML virtual community. *Workshop on Building Computational Intelligence and Machine Learning Virtual Organizations*, George Mason University, Fairfax, VA, pp. 62-66.
41. Boyle, C., Abdullin, A., Ragade, R., Mazurowski, M.A., Wojtusiak, J., & Zurada, J. M. (2008, October 24). Workflow considerations in the emerging CI-ML virtual organization. *Workshop on Building Computational Intelligence and Machine Learning Virtual Organizations*, George Mason University, Fairfax, VA, pp. 67 70.
42. J.D., & Wojtusiak, J. (2008). Traffic prediction for agent route planning. *Proceedings of the International Conference on Computational Science*, Krakow, Poland, Lecture Notes in Computer Science, Springer, 2008.
43. Wojtusiak, J. (2008, June 16-18). Data-driven constructive induction in the learnable evolution model. *Proceedings of the 16th International Conference Intelligent Information Systems*, Zakopane, Poland.
44. Pietrzykowski, J. and Wojtusiak, J., "Learning Attributional Ruletrees. (2008, June 16-18). *Proceedings of the 16th International Conference Intelligent Information Systems*, Zakopane, Poland.
45. Zurada, J. M., Wojtusiak, J., Chowdhury, F., Gentle, J. E., Jeannot, C. & Mazurowski, M.A. (2008, June 1-6). Computational intelligence virtual community: Framework and implementation issues," *Proceedings of the IEEE World Congress on Computational Intelligence*, Hong Kong.
46. Zurada, J. M., Wojtusiak, J., Gentle, J. E., Chowdhury, F., Ragade, R., & Jeannot, C. (2008, January 14-16). Computational intelligence and machine learning virtual infrastructure network (CIMLVIN). *Poster at the National Science Foundation Workshop on Building Effective Virtual Organizations*, Washington, D.C.
47. Wojtusiak, J. and Michalski, R. S., Simanivanh, M., & Baranova, A.V. (2007). The natural induction system AQ21 and its application to data describing patients with metabolic syndrome: Initial results. *International Conference on Machine Learning and Applications*, ICMLA, Cincinnati, OH.
48. Michalski, R. S., Wojtusiak, J., & Kaufman, K. (2006, November 13-15). Intelligent optimization via learnable evolution model. *Proceedings of The 18th IEEE International Conference on Tools with Artificial Intelligence*, Washington D.C.,
49. Wojtusiak, J., Michalski, R. S., Kaufman, K., & Pietrzykowski, J. (2006, November 13-15). The AQ21 natural induction program for pattern discovery: Initial version and its novel features. *Proceedings of the 18th IEEE International Conference on Tools with Artificial Intelligence*, Washington D.C.
50. Kaufman, K., Michalski, R. S., Pietrzykowski, J., &Wojtusiak, J. (2006, September 18). An integrated multi-task inductive database and decision support system

VINLEN: An initial implementation and first results. *Proceedings of The 5th International Workshop on Knowledge Discovery in Inductive Databases, KDID'06, in conjunction with ECML/PKDD*, Berlin, Germany.

51. Wojtusiak, J., &Michalski, R.S. (2006). The LEM3 implementation of learnable evolution model and its testing on complex function optimization problems," *Proceedings of Genetic and Evolutionary Computation Conference*, GECCO 2006.
52. Wojtusiak, J. (2006). Initial study on handling constrained optimization problems in learnable evolution model. *Proceedings of Graduate Student Workshop at Genetic and Evolutionary Computation Conference*, GECCO-2006.
53. Michalski, R. S., Kaufman, K. A., Pietrzykowski, J., Sniezynski, B., & Wojtusiak, J. (2006). Learning symbolic user models for intrusion detection: A method and initial results. *Proccedings of New Trends in Intelligent Information Processing and Web Mining Conference*, Ustron, Poland, June 19-22, Advances in Soft Computing, 35, pp. 273-285, Springer.
54. Wojtusiak, J., & Michalski, R. S. (2006). The use of compound attributes in AQ Learning. *Proccedings of New Trends in Intelligent Information Processing and Web Mining Conference*, Ustron, Poland, June 19-22, Advances in Soft Computing, 35, pp. 189-198, Springer.
55. Kolodziej J., Gwizdala R., & Wojtusiak J. (2001). Hierarchical genetic strategy as a method of improving search efficiency. [*Advances in Multi-Agent Systems*, R. Schaefer and S. Sedziwy (Eds.)], Chapter 9, pp. 149-161, Jagiellonian University Press.
56. Schaefer R., Kolodziej J., Gwizdala R., & Wojtusiak J. (2000). How simpletons can increase the community development - an attempt to hierarchical genetic computation. *Proc. of the 4-th Polish Conf. on Evolutionary Algorithms*, pp. 187 199.

Invited Papers in conference proceedings

57. Wojtusiak, J., Min, H., Elashkar, E., Mobahi, H., & Vukomanovic, S. (2016, June). Ontologies in supervised learning from medical data. *Artificial Intelligence for Knowledge Management Workshop at International Joint Conference on Artificial Intelligence*.
58. Michalski, R.S., &Wojtusiak J. (2007). Generalizing data in natural language. *Proceedings of the International Conference Rough Sets and Emerging Intelligent Systems Paradigms, RSEISP'07*, Lecture Notes in Computer Science, 4585, Springer.

Peer-reviewed Abstracts in Conference and Workshop Proceedings

59. Aloudah, F.M., & Wojtusiak, J. (2016, November). Towards automated selection of patient-specific education materials in ambulatory care settings. *Poster at American Medical Informatics Association Annual Symposium*.
60. Min, H., Oz, T., Vukomanovic, S., Mobahi, H., Irvin, K., Krasniqi, I., & Wojtusiak, J. (2016, November). Applying machine-learning methods to predict activities of

daily living for cancer patients. *Poster at American Medical Informatics Association Annual Symposium*.

61. Min, H., Oz, T., Vukomanovic, S., Mobahi, H., Irvin, K., Krasniqi, I., & Wojtusiak, J. (2016, November). Visualizing the effects of cancers on relationships between comorbidities and activities of daily living. *Poster at American Medical Informatics Association Annual Symposium.*
62. Madison, S., & Wojtusiak, J. (2015, April). Engaging students in health informatics research: strategies for success. *Presentation at HIMSS 2015 Annual Conference, AUPHA academic forum*, Chicago, IL.
63. Wojtusiak, J., Ngufor C., Helmchen, L., & Hadley, J. (2014). Creating clinically homogeneous groups of prostate cancer patients. *Proceedings of AMIA 2014 Annual Symposium*, Washington D.C.
64. Kolaceveki, A., Wojtusiak J. (2013). Machine learning-based detection of health data elements. *American Medical Informatics Annual Symposium*.
65. Oz, T., Ngufor, C., Wojtusiak, J. (2013). Mining progress notes for prediction of activities of daily living," *American Medical Informatics Annual Symposium*.
66. Irvin, K., Ngufor C., Wojtusiak, J. (2012, November). Comparison of classification learning methods for medical claims payments. American Medical Informatics Annual Symposium.
67. Wojtusiak, J. (2012, November). Recent advances in AQ21 rule learning system for healthcare data. American Medical Informatics Annual Symposium.
68. Wojtusiak, J., Shiver, J., Ngufor, C., & Ewald, R. (2011, February 20). Machine learning in hospital billing management. *Presentation at HIMSS 2011 Academic Forum (Hosted by AUPHA)*, Orlando, FL.
69. Wojtusiak, J. and Zurada, J. (2010). Automated computational intelligence and machine learning advising in healthcare. *Proceedings of the American Medical Informatics Association Annual Conference*.
70. Mehta, D., Perchansky, K., Wojtusiak, J., Moidu, K., & He, Z. (2009). Microaspiration from gastroesophageal reflux is common in children with asthma. *Poster at Pediatric Academic Societies Annual Meeting*, Baltimore, MD.

Chapters (Peer reviewed/invited)

71. Wojtusiak, J. (2014). Rule learning in healthcare and health services research. *Machine Learning in Health Informatics*, P. Dua (Ed.), Springer.
72. Warden, T., Wojtusiak, J., & Herzog, O. (2012). Intelligent modeling and control for autonomous logistics. [*In Advances in Intelligent Modelling and Simulation: Artificial Intelligence-based Models and Techniques in Scalable Computing, J. Kolodziej, S.U. Khan and T. Burczynski (EDS),*] Springer 2012.
73. Wojtusiak, J. and Baranova, A. V. (2011). Model learning from published aggregated data. *Learning Structure and Schemas from Documents*, Studies in Computational Intelligence, 375, 369-384.

74. Wojtusiak, J., & Alemi, F. (2010). Analyzing decisions using datasets with multiple attributes: A Machine Learning Approach. [*Handbook of Healthcare DeliverySystem*, Taylor & Francis Group].
75. Wojtusiak, J., & Kaufman, K. (2010). Ryszard S. Michalski: The vision and evolution of machine learning. [*Advances in Machine Learning I*, Koronacki, J., Z. W. Ras, Wierzchon, S.T. and Kacprzyk, J (Eds.)], 3-22, Springer-Verlag.
76. Wojtusiak, J., Zurada, J. M., Malof, J.M., Mehta, D., & Moidu, K. (2009). Toward VO-based collaboration between computational intelligence - machine learning and healthcare communities. *Recent Advances in Intelligent Information Systems*, Klopotek, M.A., Przepiorkowski, A, Wierzchon, S.T. and Trojanowski, K. (Eds.), 507-518, Academic Publishing House EXIT.
77. Kaufman, K., Michalski, R. S., Pietrzykowski, J., & Wojtusiak, J.(2007). An integrated multi-task inductive database and decision support system VINLEN: initial implementation and early results. In *Knowledge Discovery in Inductive Databases, Lecture Notes in Computer Science*, 4747, Springer.

Thesis/Dissertation

78. Wojtusiak, J. (2007, November). Handling constrained optimization problems and using constructive induction to improve representation spaces in learnable evolution model. *Ph.D. Dissertation, College of Science, Reports of the Machine Learning and Inference Laboratory*, MLI 0-3, George Mason University, Fairfax, VA.
79. Wojtusiak, J. (2001). Use of artificial intelligence methods for analyzing results of simulation of life strategies' evolution," (in Polish: Zastosowanie Metod Sztucznej Inteligencji do Analizy Wynikow Symulacji Ewolucji Strategii Zyciowych), *M.S. Thesis*, Institute of Computer Science, Jagiellonian University.

Peer-reviewed Encyclopedia Terms

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