

Razvan Andonie

**Computer Science Department
Central Washington University
Ellensburg, WA 98926**

Education

PhD in Mathematics/Computer Science, September 1984.
Department of Mathematics and Computer Science, University of Bucharest, Romania.
Dissertation Topic: *Syntactic and Informational Aspects of Pattern Recognition*.
Advisor: Solomon Marcus, Fellow of the Romanian Academy.

Master of Science in Mathematics/Computer Science, July 1977.
Department of Mathematics and Computer Science, University of Cluj-Napoca, Romania.

Research Interests

Neural Networks, Machine Learning, Deep Learning, Big Data Analytics, Visualization, Quantum Machine Learning.

Professional Experience

2015 –	Director, Computational Science Master’s Program Department of Computer Science, Central Washington University, Ellensburg, WA
2014 – 2015	Interim Chair Department of Computer Science, Central Washington University, Ellensburg, WA
2012 – 2014	Director, Computational Science Master’s Program Department of Computer Science, Central Washington University, Ellensburg, WA
2008 –	Full Professor Department of Computer Science, Central Washington University, Ellensburg, WA
2003 – 2008	Associate Professor (tenured 2007) Department of Computer Science, Central Washington University, Ellensburg, WA
1996 – 2003	Full Professor Department of Electronics and Computers, Transilvania University, Brasov, Romania
1999 – 2000	Visiting Professor Division of Computer Science, University of Texas, San Antonio
1997 – 1999	Visiting Professor Department of Computer Science, Wayne State University, Detroit, Michigan
1992 – 1996	Associate Professor Department of Electronics and Computers, Transilvania University, Brasov, Romania
1984 – 1992	Senior Research Scientist Research Institute for Computer Technique, Brasov, Romania

Short-term visiting positions:

- June-July, 2022** **Visiting Professor**, Paris North Sorbonne University, France.
- June-July, 2018** **Visiting Professor**, Computer Science Laboratory, Institut Galilée, Université Paris 13, France.
- June, 2018** **Visiting Professor**, Faculty of Electrical Engineering and Computer Science, Technische Hochschule Ingolstadt, Germany.
- Dec, 2015** **Visiting Professor**, Nanjing University of Aeronautics and Astronautics, College of Computer Science and Technology, Nanjing, China.
- 2009 – 2010** **Visiting Professor**, University of Ulster, Northern Ireland, U.K. (during sabbatical leave)
- 2009 – 2010** **Visiting Professor**, Dalle Molle Institute for Artificial Intelligence (IDSIA) Manno-Lugano, Switzerland (during sabbatical leave)
- Jan – Feb, 1996** **Visiting Professor**, University of Ulster, Northern Ireland, U.K.
- Feb – March, 1996** **Visiting Professor**, Dublin City University, Dublin, Ireland.
- July – Aug, 1997** **Visiting Professor**, Autonomous University of Barcelona, Spain.

Professional Affiliations

- Senior Member of IEEE & IEEE Computational Intelligence Society
- Senior Member of ACM
- Member of the IEEE-CS Technical Committee on Parallel Processing (TCPP)
- Member of the IASTED Technical Committee on Neural Networks (2003-2006)

• Representative Publications

Refereed Journal Publications

Paler, A., Sasu, L., Florea, A., Andonie, R. [*Machine Learning Optimization of Quantum Circuit Layouts*](#), ACM Transactions on Quantum Computing, 4, 2023, 1-25.

Galmeanu, H., Andonie, R. [*Weighted Incremental–Decremental Support Vector Machines for Concept Drift with Shifting Window*](#), Neural Networks, 152, 2022, 528-541.

Muşat, B., R. Andonie, R. *Information Bottleneck in Deep Learning - A Semiotic Approach*, International Journal of Computers Communications & Control, 17, 4650, 2022.
<https://doi.org/10.15837/ijccc.2022.1.4650>

Moldovan, A., Caţaron, A., Andonie, R. [*Learning in Convolutional Neural Networks Accelerated by Transfer Entropy*](#), Entropy 2021, 23, <https://doi.org/10.3390/e23091218>

Brasoveanu, A., Andonie, R. [*Integrating Machine Learning Techniques in Semantic Fake News Detection*](#), Neural Processing Letters, 53, 2021, 3055-3072.

Galmeanu H, Andonie R. [*Concept Drift Adaptation with Incremental–Decremental SVM*](#). Applied Sciences. 2021; 11(20):9644. <https://doi.org/10.3390/app11209644>

Muşat, B., Andonie, R. *Semiotic Aggregation in Deep Learning*, Entropy, 22, 2020, <https://doi.org/10.3390/e22121365>.

Moldovan, A., Cătaron, A., Andonie, R. *Learning in Feedforward Neural Networks Accelerated by Transfer Entropy*, Entropy, 22, 2020, <https://doi.org/10.3390/e22010102>. Selected by the Academic Editor as being of special interest and featured in a special edition of Entropy entitled “Editor’s Choice Articles” (https://www.mdpi.com/journal/entropy/editors_choice).

Andonie, R., Florea, A. *Weighted Random Search for CNN Hyperparameter Optimization*, International Journal of Computers Communications & Control, 15, 2020, <https://doi.org/10.15837/ijccc.2020.2.3868>, ISSN 1841-9844.

Brice M., Andonie R. *Automated Morgan Keenan Classification of Observed Stellar Spectra Collected by the Sloan Digital Sky Survey Using a Single Classifier*, The Astronomical Journal, 158, 2019, <https://doi.org/10.3847/2F1538-3881%2Fab40d0>

Andonie, R. *Hyperparameter optimization in learning systems*, Journal of Membrane Computing, 1, 2019, 279-291, doi=10.1007/s41965-019-00023-0, ISSN: 2523-8914.

Florea AC, Andonie R. *Weighted Random Search for Hyperparameter Optimization*, International Journal of Computers, Communications & Control, 14, 2019, 154-169, ISSN: 1841-9836.

Lorentz, I., Andonie, R., Sasu L. *Parallel Bayesian ARTMAP and Its OpenCL Implementation*, Neural Processing Letters, 47, 2018, 491-507.

Cătaron A., Andonie R. *Transfer Information Energy: A Quantitative Indicator of Information Transfer between Time Series*, Entropy, 20, 2018, <https://doi.org/10.3390/e20050323>

Cătaron A., Andonie R., Chueh, Y. *Asymptotically Unbiased Estimation of A Nonsymmetric Dependence Measure Applied to Sensor Data Analytics and Financial Time Series*, International Journal of Computers, Communications & Control, 12, 2017, 475-491, ISSN 1841-9836.

Galmeanu, H., Sasu L., Andonie R. *Incremental and Decremental SVM for Regression*, International Journal of Computers, Communications & Control, 11, 2016, 755-775, ISSN 1841-9836.

Lorentz, I., Andonie, R., Fabry-Asztalos, L. *Accelerating Molecular Structure Determination based on Inter-atomic Distances using OpenCL*, IEEE Transactions on Parallel & Distributed Systems, 26, 2015, 3250-3263.

Popovici, R., Andonie, R., Szeliga, W.M., Melbourne, T.I., Scrivner, *Real-time Monitoring of Tectonic Displacements in the Pacific Northwest through an Array of GPS Receivers*, International Journal of Computers, Communications & Control, 10, 2015, 78-88.

Cătaron A., Andonie R., Chueh, Y. *Asymptotically Unbiased Estimator of the Informational Energy with kNN*, International Journal of Computers, Communications & Control, 8, 2013, 689-698, ISSN 1841-9836.

Sasu L., Andonie R. *Bayesian ARTMAP for Regression*, Neural Networks, 46, 2013, 23-31.

Sasu L., Andonie R. *Function Approximation with ARTMAP Architectures*, International Journal of Computers, Communications & Control, 7, 2012, 957-967, ISSN 1841-9836.

Andonie, R., Fabry-Asztalos, L., Abdul-Wahid, B., Abdul-Wahid, S., Barker, B., Magill, L. *Fuzzy ARTMAP Prediction of Biological Activities for Potential HIV-1 Protease Inhibitors using A Small Molecular Dataset*, IEEE/ACM Transactions on Computational Biology and Bioinformatics, 8, 2011, 80-93.

Andonie R., Dzitic I. *How to Write a Good Paper in Computer Science and How Will It Be Measures by ISI Web of Knowledge*, International Journal of Computers, Communications & Control, 5, 2010, 432-446, ISSN 1841-9836.

Cătaron A., Andonie R. *Energy Supervised Relevance Neural Gas for Feature Ranking*, Neural Processing Letters, 32, 2010, 59-73.

Andonie R. *Extreme Data Mining: Inference from Small Datasets*, International Journal of Computers, Communications & Control, 5, 2010, 280-291, ISSN 1841-9836.

Andonie R., Sasu L., Cataron A. *A Novel Fuzzy ARTMAP Architecture with Adaptive Feature Weights based on Onicescu's Informational Energy*, International Journal of Computers, Communications & Control, 4, 2009, 104-117, ISSN 1841-9836.

Fabry-Asztalos L., Andonie R., Collar C., Abdul-Wahid S., Salim N. *A Genetic Algorithm Optimized Fuzzy Neural Network Analysis of the Affinity of Inhibitors for HIV-1 Protease*, Bioorganic & Medicinal Chemistry, 16, 2008, 2903-2911.

Cataron A., Sasu L. Andonie R. *The Impact of Feature Weighting on the Fuzzy ARTMAP Neural Network*, Bulletin of the Transylvania University of Brasov, Series A, 14, 2007, 215-222, ISSN 1223-964X.

Andonie R., Russo J.E., Dean R. *Crossing the Rubicon: A Generic Intelligent Advisor*, International Journal of Computers, Communications & Control, 2, 2007, 5-16, ISSN 1841-9836.

Andonie R., Sasu L. *Fuzzy ARTMAP with Input Relevances*, IEEE Transactions on Neural Networks, 17, 2006, 929-941.

Andonie R., Chronopoulos A.T., Grosu D., Galmeanu H. *Efficient Concurrent Implementation of a Neural Network Algorithm*, Concurrency and Computation: Practice and Experience, John Wiley & Sons, 18, 2006, 1559-1573.

Andonie R. *The New Computational Power of Neural Networks*, Neural Network World, 6, 1996, 469-475.

Andonie R., Carai C. *Gaussian Smoothing by Optimal Iterated Uniform Filters*, Computers and Artificial Intelligence, 11, 1992, 363-373.

Andonie R. *A Converse H-Theorem for Inductive Learning with Subjective Probabilities*, Computers and Artificial Intelligence, 9, 1990, 159-167.

Waniek D., Andonie R., Garbacea I., Cismas S. *The Iris Image Analysis for Health Science and Medical Science Research*, Alternative Medicine, 3, VNU Science Press, Utrecht, 1990, 716-720.

Andonie R. *On The Inference of Probabilistic Regular Grammars*, Revue roumaine de linguistique, Cahiers de linguistique theorique et appliquee, 24, 1987, 3-5.

Andonie R. *Semiotic Aggregation in Computer Vision*, Revue roumaine de linguistique, Cahiers de linguistique theorique et appliquee, 24, 1987, 103-107.

Andonie R., Petrescu F. *Interacting Systems and Informational Energy*, Foundations of Control Engineering, 11, 1986, 53-59.

Marian A., Puscas P., Andonie R. *The Bases of a Metalanguage in the Cybernetic Aesthetics (Possible Relationships Between The Visual and Sonorous Structures at The Level of Near, Mid, and Distant Orders)*, Revue roumaine de linguistique, 30, 1985, 51-65.

Andonie R., Marian A. *A Probabilistic Model in the Automatic Generation of Visual Structures*, Revue roumaine de linguistique, Cahiers de linguistique theorique et appliquee, 22, 1985, 3-17.

Andonie R. *Picture Proportional Processing Grammars in Syntactic Image Modeling*, Revue roumaine de linguistique, Cahiers de linguistique theorique et appliquee, 21, 1984, 3-19.

Andonie R. *A Generative Picture Processing Device Used in Two-Dimensional Cutting Problems*, Revue roumaine de linguistique, Cahiers de linguistique theorique et appliquee, 20, 1983, 3-13.

Andonie R. *Cybernetical Model of A Learning Process* (in Romanian), Studii si cercetari matematice, 32, 1980, 225-234.

Andonie R. *Simulierung eines Lernprozesses mit subjektiven Wahrscheinlichkeiten* (Simulation of a Learning Process with Subjective Probabilities, in German), Grundlagenstudien aus Kybernetik und Geisteswissenschaft, 20/2, Herman Schroedel Verlag KG, Hannover, 1979, 45-50.

Bereczk S., Andonie R. *Biotechnological Aspects of Perception and Memorization* (in Romanian), Studii si cercetari de biotehnologie, 7, Institutul Politehnic Bucuresti, 1979, 362-369.

Andonie R., Marian A., Puscas P. *Visual-Sonorous Correspondences* (in Romanian), Studii si cercetari de biotehnologie, 7, Institutul Politehnic Bucuresti, 1979, 56-76.

Stan I., Andonie R. *Cybernetical Model of the Artist-Consumer Relationship* (in Romanian), Studia Universitatis Babes-Bolyai, 2, 1977, 9-15.

Books

Andonie R., Garbacea I. *Fundamental Algorithms. A C++ View* (in Romanian), Libris, Cluj-Napoca, 1995, ISBN 973-96494-5-9.

Book Chapters

Brasoveanu, A., Andonie, R. *Visualizing and Explaining Language Models*, in: Kovalerchuk, B., Nazemi, K., Andonie, R., Datia, N., Banissi, E. (eds) Integrating Artificial Intelligence and Visualization for Visual Knowledge Discovery. Studies in Computational Intelligence, vol 1014. Springer, Cham 2022, 213–237.

Kovalerchuk, B., Andonie, R., Datia, N., Nazemi, K., Banissi, E. *Visual Knowledge Discovery with Artificial Intelligence: Challenges and Future Directions*, in: Kovalerchuk, B., Nazemi, K., Andonie, R., Datia, N., Banissi, E. (eds) Integrating Artificial Intelligence and Visualization for Visual Knowledge Discovery. Studies in Computational Intelligence, vol 1014. Springer, Cham 2022, 1–27.

Braşoveanu, A., Andonie, R. *Semantic Fake News Detection: A Machine Learning Perspective*, in: Rojas I., Joya G., Catala A. (eds), Advances in Computational Intelligence - IWANN 2019, Lecture Notes in Computer Science 11506, Springer, Cham, 2019, 656-667, ISBN 978-3-030-20517-1.

Florea AC, Andonie R. *A Dynamic Early Stopping Criterion for Random Search in SVM Hyperparameter Optimization*, in: Lazaros S. Iliadis et al. (eds), Artificial Intelligence Applications and Innovations – AIAI 2018, IFIP Advances in Information and Communication Technology (vol. 519), Springer, 2018, 168-180, ISBN: 978-3-319-92006-1.

Florea AC., Anvik J., Andonie R. *Parallel Implementation of a Bug Report Assignment Recommender Using Deep Learning*, in: Lintas A., Rovetta S., Verschure P., Villa A. (eds) Artificial Neural Networks and Machine Learning – ICANN 2017, Lecture Notes in Computer Science 10614, Springer, Cham, 2017, 64-71, ISBN 978-3-319-68611-0.

Catara A., Andonie R. *Transfer Information Energy: A Quantitative Causality Indicator Between Time Series*, in: Lintas A., Rovetta S., Verschure P., Villa A. (eds) Artificial Neural Networks and Machine Learning – ICANN 2017, Lecture Notes in Computer Science 10614, Springer, Cham, 2017, 512-519, ISBN 978-3-319-68611-0.

Florea, A.C, Anvik, J., Andonie, R. *Spark-based Cluster Implementation of a Bug Report Assignment Recommender System*, in: Lecture Notes in Artificial Intelligence 10246, L. Rutkowski et al. (eds.), Springer-Verlag, Berlin, 2017, 31-42, ISBN 978-3-319-59059-2.

Andonie, R., Malita, M., Stefan, G.M. *MapReduce: From Elementary Circuits to Cloud*, in: “Uncertainty Modelling”, Studies in Computational Intelligence 683, Springer International Publishing, V. Kreinovich (ed.), 2017, 1-14, ISBN: 978-3-319-51051-4.

Lorentz I., Andonie, R., Malita, M. *An Implementation of Evolutionary Computation Operators in OpenCL*, in: Intelligent Distributed Computing V, Studies in Computational Intelligence 382, F. Brazier, K. Nieuwenhuis, G. Pavlin, M. Warnier, C. Badica (eds.), Springer-Verlag, Berlin, 2012, 103-113, ISBN 978-3-642-24012-6.

Galmeanu H., Andonie R. *Practical Implementation Issues of an Incremental and Decremental SVM*, in: Lecture Notes in Computer Science 5163, V. Kurkova et al. (eds.), Springer-Verlag, Berlin, 2008, 325–335, ISBN 978-3-540-87535-2.

Andonie R. *It Matters Which Way You Go – The Moisil Heritage*, in: “Grigore C. Moisil and His Followers in The Field of Theoretical Computer Science”, A. Iorgulescu, S. Marcus, S. Rudeanu, D. Vaida (ed.), Editura Academiei Romane, Bucharest, 238-239, 2007, ISBN 978-973-27-1607-6 (invited paper on the history of computing).

Cataron A., Andonie R. *Informational Energy Kernel for LVQ*, in: Lecture Notes in Computer Science 3697, W. Dutch et al. (eds.), Springer-Verlag, Berlin, 2005, 601-606, ISBN 3-540-28755-8.

Beiu V., Zawadzki A., Andonie R., Aunet S. *Using Kolmogorov Inspired Gates for Low Power Nanoelectronics*, in: IWANN 2005, Lecture Notes in Computer Science 3512, J. Cabestan, A. Prieto, D.F. Sandoval (eds.), Springer-Verlag, Berlin, 2005, 438-445, ISBN 3-540-26208-3.

Andonie R. *The Psychological Limits of Neural Computation*, in: Dealing with Complexity: A Neural Network Approach, M. Karny, K. Warwick, V. Kurkova (eds.), Springer-Verlag, London, 1997, 252-263, ISBN 3-540-76160-8.

Andonie R. *A Converse H–Theorem for Inductive Processes with Subjective Probabilities*, in: Systems of Artificial Intelligence, A. Davidoviciu, C. Giumale, D. Roman, A. Giuculescu, M. Malita, R. Predescu (eds.), Editura Academiei Romane, Bucuresti, 1991, 114–123, ISBN 973-27-0178-1.

Andonie R., Wanick D., Garbacea I., Cismas S. *The Iris Image Analysis for Medical Diagnosis*, in: Computer Assisted Radiology, H.U. Lemke, M.L. Rhodes, C.C. Jaffe, R. Felix (eds.), Springer-Verlag, New York, 1989, 716–720, ISBN 0-387-50890-2.

Andonie R., Garbacea I. *A System For The Analysis of Cranial Computed Tomographies*, in: Computer Assisted Radiology, H.U. Lemke, M.L. Rhodes, C.C. Jaffee, R. Felix (eds.), Springer-Verlag, New York, 1987, 749–753, ISBN 0-387-17812-0.

Andonie R., Marian A. *Piet Mondrian – Computer Aided Analysis and Synthesis* (in Romanian), in: Mathematical Semiotics of Visual Arts, S. Marcus (ed.), Editura stiintifica si enciclopedica, Bucuresti, 1982, 66-72.

Editorships of Books/Proceedings

Boris Kovalerchuk, Kawa Nazemi, Răzvan Andonie, Nuno Datia, Ebad Banissi (eds.) *Integrating Artificial Intelligence and Visualization for Visual Knowledge Discovery*, Springer Cham, Studies in Computational Intelligence, vol 1014. Springer Cham 2022.

Andonie R. (ed.) *Proceedings of the IASTED International Conference on Computational Intelligence (CI 2007)*, Banff, Alberta, Canada, July 2-4, 2007, ACTA Press, ISBN 978-0-88986-672-0.

Andonie R., Grosu D. (eds.) *Neural Research Priorities in Data Transmission and EDA*, Proceedings of NEUROTOP' 97, Transylvania University of Brasov, Romania, 1997.

Refereed Conference Publications

Chao Huang Lin, Razvan Andonie, Adrian-Catalin Florea, *Optimized Fully Convolutional Neural Network Encoder for Water Detection in SAR Images*, Proceedings of the 26th International Conference Information Visualisation, Vienna, Austria, 19-22 July 2022, IEEE Computer Society, doi: 10.1109/IV56949.2022.00064, 343-350.

Andrew Dunn, Diana Inkpen, Razvan Andonie, *Evaluation of Deep Learning Context-Sensitive Visualization Models*, Proceedings of the 26th International Conference Information Visualisation, Vienna, Austria, 19-22 July 2022, IEEE Computer Society, doi: 10.1109/IV56949.2022.00066, 359-365.

Dunn, A., Inkpen, D., Andonie, R. *Context-Sensitive Visualization of Deep Learning Natural Language Processing Models*, Proceedings of the 25th International Conference Information Visualisation, Melbourne, Australia, July 5-9, 2021, IEEE Computer Society, <https://doi.org/10.1109/IV53921.2021.00035>, Volume: 1, 170-175.

Adrian Brasoveanu, Razvan Andonie, *Visualizing Transformers for NLP: A Brief Survey*, Proceedings of the 24th International Conference Information Visualisation, Melbourne, Victoria, Australia, September 7-11, 2020, IEEE Computer Society, ISBN: 978-1-7281-9134-8, 257-266.

Michael Brice, Razvan Andonie, *Classification of Stars using Stellar Spectra collected by the Sloan Digital Sky Survey*, Proceedings of the International Joint Conference on Neural Networks (IJCNN 2019), Budapest, Hungary, July 14-19, 2019.

Dmytro Dovhalets, Boris Kovalerchuk, Szilard Vajda, Razvan Andonie. *Deep Learning of 2-D Images Representing n-D Data in General Line Coordinates*, Proceedings of the 4th International Symposium on Affective Science and Engineering (ISASE2018), May 31 - June 02, 2018, Eastern Washington University, Spokane, USA, Japan Society of Kansei Engineering (publisher), ISSN: 2433-5428 1-6.

Lemley, J., Andonie, R., Odah, A., Heer, P., Widger, J., Erkul, B., Magill, L., Littlefield, K. *CWU-Chess: An Adaptive Chess Program that Improves After Each Game*, Proceedings of the IEEE Games, Entertainment, Media Conference (GEM), August 15-17, 2018, Galway, Ireland, 86-89.

Chueh, Y., Cataron, A., Andonie, R. *Mortality Rate Modeling of Joint Lives and Survivor Insurance Contracts Tested by A Novel Unilateral Dependence Measure*, Proceedings of the IEEE Symposium Series on Computational Intelligence (SSCI), December 6-9, 2016, Athens, Greece, 1-8.

Andonie, R., Johansen, A., Mumma, A., Pinkart, H., Vajda, S. *Cost Efficient Prediction of Cabernet Sauvignon Wine Quality*, Proceedings of the 2016 IEEE Symposium on Computational Intelligence for Industrial Applications (CIES) 2016, IEEE Symposium Series on Computational Intelligence (SSCI), December 6-9, 2016, Athens, Greece, 1-8.

Lemley, J., Abdul-Wahid, S., Banik, D., Andonie, R. *Comparison of Recent Machine Learning Techniques for Gender Recognition from Facial Images*, Proceedings of The 27th Modern Artificial Intelligence and Cognitive Science Conference (MAICS 2016), Dayton, OH, USA, April 22-23, 2016, 97-102, ISSN: 1613-0073.

Lemley, J., Jagodzinski, F., Andonie, R. *Big Holes in Big Data: A Monte-Carlo Algorithm for Detecting Large Hyper-rectangles in High Dimensional Data*, Proceedings of COMPSAC 2016: The 40th IEEE Computer Society International Conference on Computers, Software & Applications, Atlanta, Georgia, USA, June 10-14, 2016, 563-571. Less than 18% of the submitted papers were accepted as full papers.

Cataron, A., Andonie, R., Chueh, Y. *Financial Data Analysis using The Informational Energy Dependency Measure*, Proceedings of the International Joint Conference on Neural Networks, (IJCNN 2015), Killarney, Ireland, July 12-17, 2015, 1-8.

Popovici, R., Andonie, R. *Sensor Signal Clustering with Self-Organizing Maps*, Proceedings of the International Joint Conference on Neural Networks, (IJCNN 2015), Killarney, Ireland, July 12-17, 2015, 1-8.

Popovici, R., Andonie, R. *Music Genre Classification with Self-Organizing Maps and Edit Distance*, Proceedings of the International Joint Conference on Neural Networks, (IJCNN 2015), Killarney, Ireland, July 12-17, 2015, 1-7.

Smithrud, J., McElroy, P., Andonie R. *Massively Parallel kNN using CUDA on Spam-Classification*, Proceedings of The 26th Modern Artificial Intelligence and Cognitive Science Conference (MAICS 2015), North Carolina A&T State University, Greensboro, North Carolina, USA, April 25-26, 2015, 175-180, ISSN: 1613-0073.

Cataron, A., Andonie, R., Chueh, Y. *kNN Estimation of The Unilateral Dependency Measure between Random Variables*, Proceedings of the 2014 IEEE Symposium on Computational Intelligence and Data Mining (CIDM 2014), IEEE Symposium Series on Computational Intelligence (SSCI), December 9-12, 2014, Orlando, Florida, 471-478, ISBN: 978-1-4799-4519-1.

Popovici, R., Andonie, R., Szeliga, W.M., Melbourne, T.I., Scrivner, C.W. *Clustering and Visualization of Geodetic Array Data Streams using Self-Organizing Maps*, Proceedings of the 2014 IEEE Symposium on Computational Intelligence for Multimedia, Signal and Vision Processing (CIMSIVP 2014), Symposium Series on Computational Intelligence (SSCI), December 9-12, 2014, Orlando, Florida, 182-189, ISBN: 978-1-4799-4504-7.

Comanelea, V., Ivanovici, M., Andonie, R. *Feature Extraction from Satellite Images: A GPU-Based Machine Learning Approach*, Proceedings of the 2014 Conference on Big Data from Space (BiDS '14), November 12-14, 2014, European Space Agency (ESA) / European Space Research Institute (ESRIN), Frascati, Italy, 307-310, ISBN: 978-92-79-43252-1.

Andonie R., Fabry-Asztalos L., Sasu, L. *Bayesian ARTMAP Prediction of Biological Activities for Potential HIV-1 Protease Inhibitors using A Small Molecular Dataset*, Proceedings of the IEEE Symposium on Computational Intelligence and Computational Biology (CIBCB 2014), May 21-24, 2014, Honolulu, Hawaii, 1-8.

Cataron A., Andonie R. *How To Infer The Informational Energy from Small Datasets*, Proceedings of the 13th International Conference on Optimization of Electrical and Electronic Equipment, (OPTIM'2012), Brasov, Romania, May 24-26, 2012, 1065-1070.

Lorentz I., Andonie R., Fabry-Asztalos L. *Solving Molecular Distance Geometry Problems in OpenCL*, Proceedings of the 13th International Conference on Optimization of Electrical and Electronic Equipment, (OPTIM'2012), Brasov, Romania, May 24-26, 2012, 1421-1428.

Fabry-Asztalos L., Lorentz I., Andonie R. *Molecular Distance Geometry Optimization using Geometric Build-up and Evolutionary Techniques on GPU*, Proceedings of the IEEE Symposium on Computational Intelligence and Computational Biology (CIBCB 2012), May 9-12, 2012, San Diego, USA, 321-328.

Dumitrescu M., Andonie R. *Clustering Superpeers in P2P Networks by Growing Neural Gas*, Proceedings of the Twentieth Euromicro Conference on Parallel, Distributed, and Network-Based Processing (PDP 2012), Feb. 15-17, Garching, Germany, IEEE Computer Society Press, Los Alamitos, 2012, 311-318, ISBN: 978-0-7695-44633-9.

Lorentz I., Malita M. Andonie R. *Evolutionary Computation on the Connex Architecture*, Proceedings of The 22nd Midwest Artificial Intelligence and Cognitive Science Conference (MAICS 2011), Cincinnati, USA, April 16-17, 2011, 146-153, ISSN: 1613-0073.

Lorentz I., Malita M., Andonie R. *Fitting FFT onto an Energy Efficient Massively Parallel Architecture*, Proceedings of the Second International Forum on Next-Generation Multicore/Manycore Technologies (IFMT'10), ACM/IEEE International Symposium on Computer Architecture (ISCA 2010), Saint-Malo, France, June 19-23, 2010, ACM, ISBN: 978-1-4503-0008-7.

Galmeanu H., Andonie R. *A Multi-Class Incremental and Decremental SVM Approach using Adaptive Directed Acyclic Graphs*, Proceedings of the International Conference on Adaptive and Intelligent Systems (ICAIS'09), Klagenfurt, Austria, September 24-26, 2009, 114-119.

Andonie R., Magill L., Schwing J., Sisson B., Wysocki B. *An Adaptive Replication Algorithm in P2P File Systems with Unreliable Nodes*, Proceedings of the 2009 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'09), Las Vegas, July 13-16, 398-404.

Andonie R., Fabry-Asztalos L., Crivat B., Abdul-Wahid S., Abdul-Wahid, B. *Fuzzy ARTMAP Rule Extraction in Computational Chemistry*, Proceedings of the IEEE International Joint Conference on Neural Networks (IJCNN 2009), Atlanta, June 14-19, 2009, ISSN 1098-7576, ISBN 978-1-4244-3553-1, 157-163 – **Best Poster Award Runner-up**.

Galmeanu H., Andonie R. *Incremental / Decremental SVM for Function Approximation*, Proceedings of the 11th International Conference on Optimization of Electrical and Electronic Equipment (OPTIM 2008), Brasov, Romania, May 22-24, 2008, ISSN 1842-0133, ISBN 978-973-131-031-2, 155-160.

Andonie R., Cataron A., Sasu L. *Fuzzy ARTMAP with Feature Weighting*, Proceedings of the IASTED International Conference on Artificial Intelligence and Applications (AIA 2008), A. Gammerman (ed.), Innsbruck, Austria, Febr. 11–13, 2008, ACTA Press, ISBN 978-0-88986-709-3, 91-96.

Andonie R., Fabry-Asztalos L., Magill L., Abdul-Wahid S. *A New Fuzzy ARTMAP Approach for Predicting Biological Activity of Potential HIV-1 Protease Inhibitors*, Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (BIBM 2007), San Jose, CA, Nov 2-4, 2007, IEEE Computer Society Press, ISBN 0-7695-3031-1, 56-61.

Andonie R., Malita M. *The Connex Array as a Neural Network Accelerator*, Proceedings of the IASTED International Conference on Computational Intelligence (CI 2007), R. Andonie (ed.), Banff, Alberta, Canada, July 2-4, 2007, ACTA Press, ISBN: 978-0-88986-671-3, 163-167.

Abdul-Wahid S., Andonie R., Lemley J., Schwing J., Widger J. *Adaptive Distributed Database Replication Through Colonies of Pogo Ants*, Proceedings of the IEEE International Parallel & Distributed Processing Symposium (IPDPS 2007), Long Beach, California, March 26-30, 2007, ISBN 1-4244-0909-8.

Abdul-Wahid S., Andonie R., Lemley J., Schwing, J., Widger J. *Event-Driven Load Balancing of Partially Replicated Objects through a Swarm of Mobile Agents*, Proceedings of the IASTED International Conference on Computational Intelligence (CI 2006), B. Kovalerchuk (ed.), San Francisco, November 20-22, 2006, ACTA Press, ISBN 0-88986-603-1, 110-115.

Andonie R., Fabry-Asztalos L., Abdul-Wahid S., Collar C., Salim N. *An Integrated Soft Computing Approach for Predicting Biological Activity of Potential HIV-1 Protease Inhibitors*, Proceedings of the IEEE International Conference on Neural Networks (IJCNN 2006), Vancouver, BC, Canada, July 16-21, 2006, 7495-7502 – **Best Session Presentation Award**.

Cataron A., Andonie R. *An Informational Energy Approach to Feature Selection*, Proceedings of the 10th International Conference on Optimization of Electrical and Electronic Equipment (OPTIM'2006), Brasov, Romania, May 18-19, 2006, 129-134, ISBN 973-635-705-8, 978-973-705-3.

Andonie R., Fabry-Asztalos L., Collar C., Abdul-Wahid S., Salim N. *Neuro-fuzzy Prediction of Biological Activity and Rule Extraction for HIV-1 Protease Inhibitors*, Proceedings of the IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB'05), San Diego, November 14-15, 2005, 113-120.

Andonie R., Cataron A. *Feature Ranking using Supervised Neural Gas and Informational Energy*, Proceedings of the International Joint Conference on Neural Networks (IJCNN 2005), Montreal, July 31-August 4, 2005, 1269-1273.

Andonie R., Russo J. E., Dean R. *Crossing the Rubicon for An Intelligent Advisor*, Proceedings of the Workshop "Beyond Personalization 2005", in conjunction with the 2005 International Conference on Intelligent User Interfaces (IUI'05), M. van Setten, S. McNee, J. Konstant (eds.), January 9, 2005, San Diego, California, 7-12.

Cataron A., Andonie R. *Energy Generalized LVQ with Relevance Factors*, Proceedings of the International Joint Conference on Neural Networks (IJCNN 2004), Budapest, Hungary, July 25-29, 2004, 1421-1426.

Andonie R. Kovalerchuk, B. *Neural Networks for Data Mining: Constrains and Open Problems*, Proceedings of the 12th European Symposium on Artificial Neural Networks (ESANN'2004), M. Verleysen (ed.), Bruges, Belgium, April 28-30, 2004, 449-458 – **Invited Tutorial Paper**.

Cataron, A., Andonie R. *Computing OWA Weights as Relevance Factors*, Proceedings of the 9th International Conference on Optimization of Electrical and Electronic Equipment (OPTIM'2004), May 13-14, 2004, Brasov, Romania, ISBN 973-635-285-4, 173-178.

Andonie R., Cataron A. *An Informational Energy LVQ Approach for Feature Ranking*, Proceedings of the 12th European Symposium on Artificial Neural Networks (ESANN'2004), M. Verleysen (ed.), Bruges, Belgium, April 28-30, 2004, 471-476.

Andonie R., Sasu L. *Convergence Properties of a Fuzzy ARTMAP Network*, Proceedings of the 12th European Symposium on Artificial Neural Networks (ESANN'2004), M. Verleysen (ed.), Bruges, Belgium, April 28-30, 2004, 495-500.

Cataron A., Andonie R. *RLVQ Determination Using OWA Operators*, Proceedings of the Third IASTED International Conference on Artificial Intelligence and Applications (AIA 2003), M.H. Hamza (ed.), Benalmádena, Spain, ACTA Press, September 8-10, 2003, 434-438.

Andonie R., Sasu L., Beiu V. *Fuzzy ARTMAP with Relevance Factor*, Proceedings of the International Joint Conference on Neural Networks (IJCNN 2003), Portland, Oregon, July 20-24, 2003, 1975-1980.

Beiu V., Quintana, J.M., Avedilo, M.J., Andonie R. *Differential Implementations of Threshold Logic Gates*, Proceedings of the IEEE International Symposium on Signals, Circuits & Systems (SCS 2003), Iasi, Romania, July 10-11, 2003, 489-492.

Andonie R., Sasu L., Beiu V. *A Modified Fuzzy ARTMAP Architecture for Incremental Learning Function Approximation*, in: Neural Networks and Computational Intelligence, O. Castillo (ed.), Anaheim, California, ACTA Press, Proceedings of the IASTED International Conference on Neural Networks and Computational Intelligence (NCI 2003), Cancun, Mexico, May 19-21, 2003, 124-129.

Andonie R., Sasu L. *A Fuzzy ARTMAP Probability Estimator with Relevance Factor*, Proceedings of the 11th European Symposium on Artificial Neural Networks (ESANN'2003), M. Verleysen (ed.), Bruges, Belgium, April 23-25, 2003, 367-372.

Chronopoulos A.T., Andonie R., Benche M., Grosu D. *A Class of Loop Self-Scheduling for Heterogeneous Clusters*, Proceedings of the Third IEEE International Conference on Cluster Computing (Cluster 2001), Newport Beach, California, October 8-11, 2001, 282-291.

Andonie R., Chronopoulos A.T., Grosu, D., Galmeanu, H. *Distributed Backpropagation Neural Networks on a PVM Heterogeneous System*, Proceedings of the 10th IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS'98), Y. Pan, S.G. Akl, K. Li (eds.), IASTED-ACTA Press, Anaheim, 1998, 555-560.

Andonie R. *Time-Space Trade-Offs in Parallel and Neural Computing*, Proceedings of the EIS'98 International ICSC Symposium on Engineering of Intelligent Systems, ICSC Academic Press, Tenerife, Spain, February 11-13, 1998, 427-432.

Owens F.J., Andonie R., Zheng G.H., Cataron A., Manciu S. *A Comparative Study of the Multi-Layer Perceptron, the Multi-Output Layer Perceptron, the Time-Delay Neural Network and the Kohonen Self-Organizing Map in an Automatic Speech Recognition Task*, Proceedings of the EIS'98 International ICSC Symposium on Engineering of Intelligent Systems, ICSC Academic Press, Tenerife, Spain, February 11-13, 1998, 624-629.

Andonie R. *Time-Space Symmetry in Parallel and Neural Computing*, Proceedings of the Satellite Conference of ECM'96 "Symmetry and Anti-Symmetry in Mathematics, Formal Languages and Computer Science", Brasov, July 18-19, 1996, 7-8.

Andonie R., Garbacea I. *TIMPA – The Analysis of Cranial Computed Tomographies*, Proceedings of the Conference on Optimization of Electric, Electronic, Driving, Automation, and Computing Equipments (OPTIM'87), University of Brasov, Nov. 20-21, 1987, 213-216.

Andonie R. *A Semiotic Approach to Hierarchical Computer Vision* in: Cybernetics and Systems, J. Rose (ed.), (Proceedings of the Seventh International Congress of Cybernetics and Systems, London, Sept. 7-11, 1987), Thales Publications, Lytham St. Annes, 1987, 930-933.

Andonie R. *A Generative Picture Processing Device Used in Two-Dimensional Cutting Problems*, in: Proceedings of the Seventh Conference on Probability Theory (August 29 – September 4, 1982, Brasov), M. Iosifescu (ed.), Editura Academiei R.S.R., Bucuresti, 1984, 599-606.

Andonie R. *On Learning Systems with Subjective Probabilities*, in: Formalization of Psychological Theories (Proceedings of the 13-th European Mathematical Psychology Group Meeting, Sept., 1982), C. Micko, U. Schulz (eds.), Bielefeld, 1982, 1-13.

Andonie R., Marian A., Puscas P. *The Basis of a Metalanguage in the Cybernetic Aesthetics*, Proceedings of the International Symposium on Application of Mathematics in System Theory, Brasov, Dec. 27-30, 1978, 127-134.

Other Refereed Conference Presentations

Alexandru Paler, Lucian Sasu, Adrian Florea, Razvan Andonie: *Machine Learning Optimization of Quantum Circuit Layouts*, Quantum Techniques in Machine Learning 2021, November 8-21, 2021, online conference, poster/video presentation.

Alexandru Paler, Lucian Sasu, Adrian Florea, Razvan Andonie . March 1-5, 2021: *Machine Learning Optimization of Quantum Circuit*, Machine Learning for Quantum 2021 (MLQ2021), March 1-5, 2021, online conference, poster/video presentation.

Yvonne Chueh, Angel Cataron, Razvan Andonie. *Stochastic Modeling of Mortality Rate: Unilateral Dependency Applied to the 2000-08 SOA IAEC Data for Older Age Mortality Modeling*, The 51st Actuarial Research Conference, University of Minnesota / University of St. Thomas, Minneapolis / St. Paul, July 27 – 30, 2016, presentation.

Joshua M. Smithrud, Patrick McElroy, Razvan Andonie. *Massively Parallel kNN using CUDA on Spam-Classification*, GPU Technology Conference, San Jose, CA, March 24-27, 2014, poster presentation.

Badi' Abdul-Wahid, Grant I. Barker, Sarah Abdul-Wahid, Luke Magill, Catharine Collar, Nicholas Salim, Razvan Andonie, Levente Fabry-Asztalos. *Using Computational Intelligence as Predictive Tool for Biological Activities of Drug Candidates Targeted Towards Therapeutically Important Enzymes for Rapid Screening*, Posters on the Hill (the posters are presented to the members of Congress), Council on Undergraduate Research, Capitol Hill, Washington DC, May 5th, 2009, poster presentation.

Badi' Abdul-Wahid, Levente Fabry-Asztalos, Razvan Andonie. *Prediction of Biological Efficacy for Potential Plasmodium Falciparum Plasmepsin IV Inhibitors*, Seattle Parasitology Conference, Seattle Biomedical Research Institute, May 14-15, 2009, poster presentation.

Badi' Abdul-Wahid, Sarah Abdul-Wahid, Levente Fabry-Asztalos, Razvan Andonie. *In Silico Study of Plasmodium Falciparum Proteases Plasmepsin II and IV: Prediction of Biological Activity of Newly Designed Inhibitors*, the 233th American Chemical Society National Meeting, Chicago, IL, March 25-29, 2007, poster presentation.

Nicholas Salim, Sarah Abdul-Wahid, Catharine J. Collar, Levente Fabry-Asztalos, Razvan Andonie. *Application of a Fuzzy-Neural Network to Predict IC₅₀ Values for Potential HIV-1 Protease Inhibitors*, the 331th American Chemical Society National Meeting, Atlanta, GA, March 26-30, 2006, poster presentation.

Catharine J. Collar, Sarah Abdul-Wahid, Nicholas Salim, Levente Fabry-Asztalos, Razvan Andonie., *Neuro-Fuzzy Prediction of Biological Activity and IF/THEN Rule Extraction for HIV-1 Protease Inhibitors*, the 331th American Chemical Society National Meeting, Atlanta, GA, March 26-30, 2006, poster presentation.

Textbooks

Andonie R., Cațaron A., Galmeanu H., Ivanovici M., Sasu L. *Algorithms and Data Structures: Applications in Image Processing and Bioinformatics – Lecture Notes* (in Romanian), Transylvania University Press, Brasov, Romania, 2013, ISBN 978-606-19-0206-4.

Andonie R., Cațaron A., Gaspar Z., Galmeanu H., Ivanovici M., Lorentz I., Sasu L. *Algorithms and Data Structures: Applications in Image Processing and Bioinformatics* (in Romanian), Transylvania University Press, Brasov, Romania, 2012, ISBN 978-606-19-0058-9.

Andonie R., Cătaron A. *Computational Intelligence* (in Romanian), Transylvania University Press, Brasov, Romania, 2002.

Andonie R. *Algorithms and Complexity* (in Romanian), Transylvania University Press, Brasov, Romania, 1994.

Andonie R. *Analysis of Algorithms* (in Romanian), Transylvania University Press, Brasov, Romania, 1992.

Invited Talks

- July 27th, 2022: *Visualization and Information Aggregation in Deep Learning*, Machine Learning and Applications Summer School (MLASS 2022), Brasov, Romania, July 26-29, 2022.
- June 29th, 2022: *The Semiotics of Deep Learning*, University Sorbonne Paris Nord, France.
- May 17th, 2022: *Computational Semiotics in Deep Learning*, Keynote Speaker, 9th International Conference on Computers Communications and Control (ICCCC 2022), Baile Felix, Oradea, Romania.
<http://univagora.ro/en/icccc2022/keynote/>
- May 13th, 2020: *Practical Hyperparameter Optimization for Deep Learning*, Keynote Speaker, 8th International Conference on Computers Communications and Control (ICCCC 2020), Baile Felix, Oradea, Romania. <http://univagora.ro/en/icccc2020/keynote/>
- August 7th, 2019: *Computational Complexity in Hyperparameter Optimization of Learning Systems*, 20th Conference on Membrane Computing (CMC 20), August 5-8, 2019, Curtea de Arges, Romania, <http://membranecomputing.net/cmc20/>.
- July 14th, 2019: *Hyperparameter Optimization in Machine Learning*, Machine Learning and Applications Summer School (MLASS 2019), Brasov, Romania, July 22-26, 2019.
- July 4th, 2018: *Cost Efficient Prediction of Wine Quality - A Machine Learning Approach*, Laboratoire d'Informatique de Paris-Nord (LIPN), Institute Galilée, Université Paris 13, France.
- June 28th, 2018: *Hyperparameter Optimization for Neural Networks*, Laboratoire d'Informatique de Paris-Nord (LIPN) Institute Galilée, Université Paris 13, France.
- Dec. 4th, 2017: *Recent Computer Science Applications*, School of Electrical Engineering and Computer Science University of Ottawa, Canada.
- Dec. 4-18, 2015: Invited course on *Machine Learning for Big Data*, Nanjing University of Aeronautics and Astronautics, China.
- July 16-18, 2015: Technical Training on Neural Networks, FotoNation, Galway, Ireland.
- March 25th, 2014: *Big Data: A Machine Learning Perspective*, National University of Ireland, Maynooth, Ireland.

- May 8-12, 2012: Keynote Speaker, Workshop on Intelligent Decision Support Systems for Crisis Management (International Conference on Computers, Communication & Control, ICCCC 2012), Baile Felix, Oradea, Romania.
- May 12-16, 2010: *Extreme Data Mining: Inference from Small Datasets*, International Conference on Computers, Communication & Control (ICCCC 2010), Baile Felix, Oradea, Romania.
- May 12-16, 2010: *How to Write and Publish a Good Paper in Computer Science*, International Conference on Computers, Communication & Control (ICCCC 2010), Baile Felix, Oradea, Romania, invited plenary lecture.
- April 8th, 2010: *Computational Intelligence and Peer-to-Peer Computing Research Projects at Central Washington University*, Computer Science and Communications (CSC) Research Unit, Faculty of Sciences, Technology and Communication, University of Luxembourg, Luxembourg.
- September 1st, 2009: *How to Learn from Small Training Sets*, Dalle Molle Institute for Artificial Intelligence (IDSIA), Manno-Lugano, Switzerland.
- June 4th, 2008: *Extreme Data Mining: Inference from Small Datasets*, National University of Ireland, Maynooth, Ireland.
- June 6th, 2008: *Inference from Small Training Sets – A Computational Intelligence Perspective*, University of Ulster, Jordanstown, Northern Ireland, United Kingdom.
- November 10, 2006: *Predicting Biological Activity of Potential HIV-1 Protease Inhibitors – A Computational Intelligence Approach*, Old Dominion University, Norfolk, VA.
- October 28, 2004: *Turing and the Neurons*, McCracken Computational Sciences Seminar Series, Central Washington University, Ellensburg, WA.
- April, 2004: *Neural Networks for Data Mining: Constraints and Open Problems*, The 12th European Symposium on Artificial Neural Networks (ESANN'2004), Bruges, Belgium.
- April, 2003: *Toward An Intelligent E-Commerce Advisor*, Department of Computer Science, Central Washington University, Ellensburg, WA.
- November, 2002: *Data Quality Measures in Decision-Making*, Institute for Neuro- and Bioinformatics, University of Lübeck, Germany.
- March, 2002: *Distributed Computational Intelligence Techniques for Knowledge Engineering*, Department of Computer Science, Rochester Institute of Technology, NY.
- January, 2001: *Distributed Neural Computing*, Department of Computer Science and Information Systems, University of Nebraska at Kearney.
- November, 1998: *Distributed Backpropagation Neural Networks*, Division of Computer Science, University of Texas at San Antonio.
- July, 1997: *Time-Space Trade-Offs in Parallel and Neural Computing*, Autonomous University of Barcelona, Spain.
- February, 1997: *The Psychological Limits of Neural Computation*, Wayne State University, Detroit.
- December, 1996: *Optimization of Circuits using Neural Networks*, Uppsala University, Sweden.
- January-March, 1996: *The Psychological Limits of Neural Computation*, Dublin City University (Dublin, Ireland), Trinity College (Dublin, Ireland), University of Ulster (Northern Ireland, UK), University of Bristol (Bristol, UK), King's College (London, UK).

Research Grants

- Co-PI, Research of Grant of Casual Actuarial Society, USA, *Excess Credibility in Mixed Parametric Probability Models Using Machine Learning*, funded (\$20,000), August 2020 – July 2021.
- PI, Research Grant of FotoNation Limited, Galway, Republic of Ireland: *Neural Networks Analysis, Design and Optimization for FotoNation*, funded (\$100,000), Nov. 2016 – Sept. 2017.
- Co-PI, Structural Regional Grant financed by the European Union (Grant POSDRU/86/1.2/S/61756, contract number: E 4863): *Analysis, Modeling, and Simulation Techniques for Imagistics, Bioinformatics, and Complex Systems*, funded (total: 15,361, 000 RON = approx. \$5,000,000, out of which, as PI: 921,660 RON = approx \$300,000). The goal of this project (2010-2013) was to start a research master's program in Bioinformatics in Romania. This international program involved people and institutions from several European countries and the USA.
- Co-PI – Research Grant 989/2007 of the National University Research Council (CNCSIS), Romanian Ministry of Education and Research, (<http://www.cncsis.ro/English/home.php>), Member of the European

Science Foundation: *Neural Networks with Relevances in Data Mining*, 2007 – funded (50,000 RON = approx. \$21,000).

- I have been involved in many research projects, among which a three-year structural joint European project (TEMPUS SJEP 08180-94 “Interconn”) involving: IUT-Universite d’Angers (France), Technische Universitat Braunschweig (Germany), Fachhochschule Karlsruhe (Germany), National Technical University of Athens (Greece), Dublin City University (Ireland), University College Galway (Ireland), Universidad Autonoma de Barcelona (Spain), Universidad de Granada (Spain), University of Ulster (U.K.), University of Plymouth (U.K.), and Coventry University (U.K.).

• Teaching and student advising

Management of Teaching Programs

In July 2019 and 2022 I have co-organized *The Machine Learning and Applications Summer School* in Brasov, Romania. Faculty and students from CWU have attended the school and I was able to finance their travel and accommodation from external sources (industry). The 2022 event was organized by CWU in collaboration with CY Cergy Paris Université (France) and Transilvania University of Brasov (Romania) with a focus on *Visualization in Machine Learning*. This school is a training environment for both professionals from the industry and graduate students. The lectures were accompanied by workshops offering hands-on experience with machine learning methods and tools. The event created an excellent opportunity to meet machine learning experts from several countries in the exciting environment of a charming touristic place in Romania.

In 2011 I have successfully introduced a Computational Science Master’s Program at CWU. (http://catalog.cwu.acalog.com/preview_program.php?catoid=32&poid=6980) and I am presently directing it. This program is different than a traditional computer science or mathematics master’s. The heart of the program is computer related, but the applications are in different scientific domains (biology, chemistry, physics, mathematics, geology, computer science). The focus of the program is to prepare students to do work in a multidisciplinary environment through course work and doing research.

Student Research Advising (* students whom I have co-authored at least one article with)

Postdoctoral Studies Supervised (Transylvania University, Romania)

Alexandru Paler, *Neural Quantum*, Project CNFIS-FDI-2019-0324, 2019-2020, completed May 2020.

Ph.D. Theses Completed Committee Chair (Transylvania University, Brasov, Romania)

Adrian Brasoveanu*, *Intelligent Systems in Semantic Networks*, 2021

Adrian Catalin Florea*: *Intelligent Decision Systems (Sisteme Inteligente de Decizie, in Romanian)*, 2019.

Razvan Popovici*: *Classification and Clustering of Signals and Sequences using Self-Organizing Maps*, 2015.

Istvan Lorentz*: *Parallel Computing on Multi-Core and Graphics Processors*, 2013.

Bogdan Crivat*: *Applications of Computational Intelligence in Data Mining*, 2011.

Honorius Galmeanu*: *Technologies for Data Mining on the Internet: A Practical Approach to Incremental and Decremental SVM Paradigm*, 2008.

Lucian Sasu*: *Fuzzy ARTMAP with Relevance Factor*, 2006.

Ph.D. Theses under Progress (Transylvania University, Romania)

Bogdan Musat, Adrian Moldovan, Stelian Matase, Ahmad Alsharef.

Member of Habilitation Thesis Committee

Rapporteur of the Habilitation Thesis "Contributions to data dimensionality reduction and co-clustering" of Dr. Nicoleta Rogovschi, Paris University 13, France, November 2020.

Rapporteur of the Habilitation Thesis "Contributions on Collaborative Unsupervised Machine Learning" of Dr. Nistor Grozavu, Paris University 13, France, February 2020.

Member of PhD Thesis Committee

Member of the PhD Thesis Committee for Arjun Yogeswaran, School of Electrical Engineering and Computer Science University of Ottawa, Canada, completed December 2017.

Member of the PhD Thesis Committee for Sarah Zouinina, Sorbonne University Paris Nord, France; Abdelmalek Essaadi University, Tangier, Morocco, September 2020.

Master's Theses Completed as Committee Chair (C.W.U.)

Bradley Reeves, *Protego: A Python Package for SQL Injection Detection*, graduated Spring 2022.

SiChong Qin, *Bias and Fairness of Evasion Attack in Image Perturbation*, graduated Spring 2021.

Chao Huang Lin, *Water Surfaces Detection from SENTINEL-1 SAR Images using Deep Learning*, graduated March 2021.

Lubna Alazamil, *Image Forgery Detection with Machine Learning*, graduated June 2020.

Michael Brice*: *Classification of Stars from Redshifted Stellar Spectra utilizing Machine Learning*, graduated May 2019.

Sami Abdul-Wahid*: *Spike-based Classification of UCI Datasets with Multilayer ReSuMe-like Tempotron*, graduated May 2018.

Joseph Lemley*: *Applications of Computational Geometry and Computer Vision*, graduated June 2016.

Gabriel Ratener: *Bizubee*, graduated February 2017.

Sanjita Timilsina: *Time Series Analysis*, graduated February 2017.

Dmytro Dovhalet*, *Data Visualization and Classification of Artificially Created Images*. graduated March 2018.

Sadia Afroz, *Job Matching Software for Recruitment System*, graduated March 2018.

Member of the MS Thesis Committee (external students only)

Shunfan Shi, University of Auckland, New Zealand, October 2020.

Master's Theses Completed as Committee Chair (Transilvania University, Brasov, Romania)

1995

Benche Iustin: *Genetic Algorithms in Neural Networks*.
Boaghe Otilia: *Kalman Filtering for Learning in Feed-Forward Neural Networks*.
Matase Stelian: *A Conex Memory*.
Cataron Angel*: *Neural Networks for the Optimization of Logical Functions*.
Fejer Robert: *A Software Package for Backpropagation*.
Monica Pavaluca: *Markov Chains and Genetic Algorithms*.

1996

Milea Mihael: *A Windows Interface for Image Processing*.
Leonte Nistor: *The Optimization of Finite State Automata by Evolutionary Programming*.
Bera Daniel: *WEB-LATTICE Neural Networks for Digital Filter Design*.
Manolache Flavius: *Image Recognition by Feed-Forward Neural Networks*.
George Serban: *Fourier Descriptors in Image Recognition*.
Claudia Sultana: *Neural Prediction of Currency Exchange Rates*.

1997

Stancescu Nicolae: *Thinning Algorithms using Neural Networks*.
Gros Alexandru: *Edge Detection by Neural Networks*.
Nitescu Cristian: *Image Compression using Topological Feature Maps*.
Badulescu Bogdan: *A Fuzzy Neural Network Used in Character Recognition*.
Manciulea Sebastian: *Speech Recognition using Kohonen Maps*.
Radulescu Rodica: *Regular Grammatical Inference with Recurrent Neural Networks*.
Danciu Daniel: *Computational Intelligence Techniques for Solving Graph Problems*.
Raduta Tony: *Intranet*.
Oancea Bogdan: *Parallel Neural Computing on PVM*.

• Reviewer Activity

Editorial Boards of International Journals

- Area Editor of Computational Intelligence, ISSN 1467-8640, Wiley Periodicals, Inc.
- Executive Editor of International Journal of Computers, Communications & Control (IJCCC), ISSN 1841-9836.
- Member of the Editorial Board of International Journal on Advances in Intelligent Systems, ISSN 1942-2679.
- Editor of Bulletin of The Transilvania University of Brasov, Romania, Series III - Mathematics.Informatics.Physics.

Book Reviews for

John Wiley & Sons, Oxford University Press, Prentice Hall, Charles River Media, Addison-Wesley.

Journal Reviews for

Neural Networks, The Journal of Supercomputing, IEEE Transactions on Very Large Scale Integration Systems, Biomedical Signal Processing and Control, IEEE IEEE/ACM Transactions on Computational Biology and Bioinformatics, IEEE Transactions on Neural Networks, IEEE Transactions on Multimedia, IEEE Transactions on Signal Processing, IEEE Transactions on Evolutionary Computation, IEEE Transactions on System, Man, and Cybernetics, International Journal of Computers and Applications, Soft Computing, Neural Processing Letters, International Journal On Advances in Intelligent Systems, International Journal of Computers, Communications & Control (IJCCC).

Research Grants Reviews for

- The National University Research Council (CNCSIS), Romanian Ministry of Education and Research, (<http://www.cncsis.ro/English/home.php>), Member of the European Science Foundation.
- [CONICYT](#) - Chilean National Science and Technology Commission.
- The Graduate School of Xi'an Jiaotong-Liverpool University (XJTLU) , China.

Other Professional Reviewer Activity

- Rapporteur of the Habilitation Thesis "Contributions on Collaborative Unsupervised Machine Learning" of Dr. Nistor Grozavu, Paris University 13, France, Winter 2020.
- Rapporteur of the Habilitation Thesis "Contributions to data dimensionality reduction and co-clustering" of Dr. Nicoleta Rogovschi, Paris University 13, France, Fall 2020.

Conference Organization

- Member of the Program Committee and Session Chair, Symposium "AI and Visual Knowledge Discovery", 27 International Conference Information Visualisation, 25-28 July 2023, Tampere University, Finland.
- Member of the Program Committee and Session Chair, Symposium "Artificial Intelligence and Application", 26th International Conference Information Visualization, July 19-22, 2022, Technische Universität Wien, Austria.
- Member of the Scientific Committee of the 9th INTERNATIONAL WORK-CONFERENCE on the INTERPLAY between NATURAL and ARTIFICIAL COMPUTATION (IWINAC 2022), Tenerife, Spain, May 31-June 3, 2022.
- Member of the Program Committee of the 9th International Conference on Computers Communications and Control (ICCCC), Băile Felix, Oradea, Romania May 16-20, 2022.
- Member of the Program Committee and Session Chair, Symposium "Artificial Intelligence and Application", 25th International Conference Information Visualization, July 5-16, 2021, online.
- Member of the Technical Program Committee of the 2021 International Joint Conference on Neural Networks (IJCNN 2021), Virtual Event, July 18-22, 2021.
- Member of the Program Committee and Session Chair, Symposium "Artificial Intelligence and Application", 24th International Conference Information Visualization, 7-11 September, 2020, online.
- Member of the Program Committee of the 8th International Conference on Computers Communications and Control (ICCCC), Băile Felix, Oradea, Romania May 11-15, 2020.
- Member of the Technical Program Committee of the 2020 International Joint Conference on Neural Networks (IJCNN 2020), Glasgow, UK, July 19-24, 2020.
- Co-organizer of the Machine Learning and Applications Summer School (MLASS 2019), Brasov, Romania, July 22-26, 2019.
- Co-organizer of the Workshop "Advances in Learning from/with Multiple Learners", International Joint Conference on Neural Networks (IJCNN 2019), Budapest, Hungary, July 14-19, 2019.
- Member of the Program Committee of the 13th International Symposium on Intelligent Distributed Computing (IDC 2019), 7-9 October 2019, Saint-Petersburg, Russia.
- Member of the Scientific Committee of the 8th INTERNATIONAL WORK-CONFERENCE on the INTERPLAY between NATURAL and ARTIFICIAL COMPUTATION (IWINAC 2019), Almeira, Spain, June 3-7, 2019.
- Member of the Organizing and Program Committees of the 3rd International Workshop on Advances in Learning from/with Multiple Learners (ALML 2019), The International Joint Conference on Neural Networks (IJCNN), Budapest, Hungary, July 14-19, 2019.
- Member of the Technical Committee of the Fifteenth International Conference on Autonomic and Autonomous Systems (ICAS 2019), June 2-6, 2019, Athens, Greece.
- Member of the Program Committee of the 7th International Conference on Computers Communications and Control, IEEE-ICCCC 2018, Baile Felix, Oradea, Romania, May 8-12, 2018.
- Co-chair of the Deep Learning in Consumer Electronics special track, IEEE International Conference on Consumer Electronics (ICCE 2018), Las Vegas, January 12-15, 2018.

- Member of the Scientific Committee of the 7th INTERNATIONAL WORK-CONFERENCE on the INTERPLAY between NATURAL and ARTIFICIAL COMPUTATION (IWINAC 2017), A Coruña, Spain, June 19-23, 2017.
- Member of the Technical Committee of the Thirteenth International Conference on Autonomic and Autonomous Systems (ICAS 2017), May 21-25, 2017, Barcelona, Spain.
- Member of the Program Committee of the 10th International Symposium on Intelligent Distributed Computing (IDC 2017), 11-13 October 2017, Belgrade, Serbia.
- Member of the Program Committee of the 10th International Symposium on Intelligent Distributed Computing (IDC 2016), 10th-12th October 2016, Paris, France.
- Member of the International Program Committee of the 27th Modern Artificial Intelligence and Cognitive Science Conference (MAICS 2016), University of Dayton, Dayton, OH, April 22-23, 2016.
- Member of the Program Committee and Session Chair of the Computational Intelligence Methods Special Session, the 6th International Conference on Computers Communications and Control, IEEE-ICCCC 2016, Baile Felix, Oradea, Romania, May 10-14, 2016.
- Member of the International Conference Committee of the 17th International Conference on Information Science and Engineering (ICISE 2015), Cape Town, South Africa, November 5 - 6, 2015.
- Member of the Technical Committee of the Twelfth International Conference on Autonomic and Autonomous Systems (ICAS 2016), June 26-30, 2016, Lisbon, Portugal.
- Member of the Scientific Committee of the Sixth International Work-Conference on the Interplay between Natural and Artificial Computation (IWINAC2015), Centro de Congressos "Ciutat d'Elx", June 1-5, 2015, Elche (Elx), Spain.
- Member of the Scientific Committee of the Knowledge Engineering: Principles and Techniques (KEPT) Research Workshops, July 2, 2015 Cluj-Napoca, Romania.
- Member of the Program Committee of the 9th International Symposium on Intelligent Distributed Computing (IDC 2015), 7th-9th October 2015, Guimarães, Portugal.
- Member of the Program Committee of the 7th Balkan Conference in Informatics, September 2-4, 2015, Craiova, Romania.
- Member of the Technical Committee of the Eleventh International Conference on Autonomic and Autonomous Systems (ICAS 2015), May 24-29, 2015, Rome, Italy.
- Member of the Program Committee of the 5th International Conference on Computers Communications and Control, ICCC 2014, Baile Felix, Oradea, Romania, May 7-9, 2014.
- Member of the Program Committee of the 8th International Symposium on Intelligent Distributed Computing (IDC 2014), Madrid, Spain, September 3-5, 2014.
- Member of the Technical Committee of the Tenth International Conference on Autonomic and Autonomous Systems (ICAS 2014), April 20-24, 2014, Chamonix, France.
- Member of the International Program Committee of the 24th Midwest Artificial Intelligence and Cognitive Science Conference (MAICS2013), April 13-14, 2013, University Center at Indiana University Southeast, New Albany, IN, USA.
- Member of the Technical Committee of the Ninth International Conference on Autonomic and Autonomous Systems (ICAS 2013), March 24-29, Lisbon, Portugal, 2013.
- Member of the Program Committee of the 7th International Symposium on Intelligent Distributed Computing (IDC 2013), Prague, Czech Republic, September 4-6, 2013.
- Member of the Program Committee of the IADIS Intelligent Systems and Agents International Conference (ISA 2012), Lisbon, Portugal, July 21-23, 2012.
- Member of the International Program Committee of the 23rd Midwest Artificial Intelligence and Cognitive Science Conference (MAICS2012), April 21-22, 2012, Cincinnati, Ohio.
- Co-organizer and Section Chair of the Workshop on Intelligent Decision Support Systems for Crisis Management (International Conference on Computers, Communication & Control, ICCC 2012), Baile Felix, Oradea, Romania, May 8-12, 2012.
- Member of the Technical Committee of the Eighth International Conference on Autonomic and Autonomous Systems (ICAS 2012), May 25-29, 2012 – St. Maarten, Netherlands Antilles.
- Member of the Program Committee of the 6th International Symposium on Intelligent Distributed Computing (IDC 2012), Calabria, Italy, September 24-26, 2012.
- Member of the Program Committee of the 5th International Symposium on Intelligent Distributed Computing (IDC 2011), Delft, The Netherlands, October 5-7, 2011.

- Member of the Program Committee of the IADIS Intelligent Systems and Agents International Conference (ISA 2011), Rome, Italy, July 20-26, 2011.
- Member of the Technical Committee of the Seventh International Conference on Autonomic and Autonomous Systems (ICAS 2011), May 22-27, 2011, Venice, Italy.
- Member of the Scientific Committee of the 4th. International Work-Conference on the Interplay between Natural and Artificial Computation (IWINAC2011), La Palma, Canary Islands, Spain, May 30 – June 3, 2011.
- Member of the International Program Committee of the 22nd Midwest Artificial Intelligence and Cognitive Science Conference (MAICS2001), April 16-17, 2011, Cincinnati, Ohio, USA.
- Member of the Program Committee of the 2010 IEEE/ACM International Conference on Green Computing and Communications (GreenCom 2010), Hangzhou, China, October 30–November 1, 2010.
- The International Conference on Computers, Communication & Control (ICCCC 2010), Baile Felix, Oradea, Romania, May 12-16, 2010 (member of the Advisory Board and Session Chair).
- The Fifth IASTED International Conference on Computational Intelligence. (CI 2010), Maui, Hawaii, August 23-25, 2010 (member of the International Program Committee).
- The 4th International Symposium on Intelligent Distributed Computing (IDC 2010), Tangier, Morocco, September 16-18, 2010 (member of the Program Committee).
- The IADIS Intelligent Systems and Agents International Conference (ISA 2010), Freiburg, Germany, July 29-31, 2010 (member of the Program Committee).
- The Sixth International Conference on Autonomic and Autonomous Systems (ICAS' 2010), Cancun, Mexico, March 7-12, 2010 (member of the Technical Committee).
- The Special Session on Machine Learning Applications in Bioinformatics and Computational Biology, The Eighth International Conference on Machine Learning and Applications (ICMLA 2009), Miami, Florida, Dec. 13-15, 2009 (member of the Program Committee).
- The Fourth IASTED International Conference on Computational Intelligence (CI 2009), Honolulu, Hawaii, August 17-19, 2009 (member of the Program Committee).
- The Fourth International Multi-Conference on Computing in the Global Information Technology (ICCGI 2009), Cannes, French Riviera, France, August 23-29, 2009 (member of the Technical Program Committee).
- The Knowledge Engineering: Principles and Techniques Conference (KEPT), Cluj-Napoca, Romania, July 2 - 4, 2009 (member of the Program Committee).
- The IADIS Intelligent Systems and Agents International Conference, Algarve, Portugal, June 21-23, 2009 (member of the Scientific Committee).
- The 3rd International Symposium on Intelligent Distributed Computing (IDC 2009), Ayia Napa, Cyprus, September 12-14, 2009 (member of the Program Committee).
- The 3rd International Work-Conference on the Interplay between Natural and Artificial Computation (IWINAC 2009), Santiago de Compostela, Spain, June 22-26, 2009 (member of the Scientific Committee).
- The Fifth International Conference on Autonomic and Autonomous Systems (ICAS' 2009), Valencia, Spain, April 21-25, 2009 (member of the Technical Program Committee).
- The 2nd International Symposium on Intelligent Distributed Computing (IDC'2008), Catania, Italy, Sept. 18-20, 2008 (member of the Program Committee).
- The IEEE World Congress on Computational Intelligence (WCCI 2008), Hong-Kong, June 1-6, 2008 (member of the Technical Committee).
- The IADIS Intelligent Systems and Agents International Conference, Amsterdam, Netherlands, 22-24 July, 2008 (member of the Scientific Committee).
- The International Multi-Conference on Computing in the Global Information Technology (ICCGI'08), Athens, Greece, July 27 – August 1, 2008 (member of the Technical Program Committee).
- The Fourth International Conference on Autonomic and Autonomous Systems (ICAS' 2008), Gosier, Guadeloupe, French Caribbean, March 16-21, 2008 (member of the Technical Program Committee).
- The Third International Conference on Computers, Communication & Control (ICCCC 2008), Baile Felix, Oradea, Romania, May 15-17, 2008 (Organizing Committee Chair and Session Chair).
- The IADIS Intelligent Systems and Agents International Conference, Lisbon, Portugal, 3-5 July, 2007 (member of Scientific Committee).
- The IASTED International Conference on Artificial Intelligence and Applications (AIA 2008), Innsbruck, Austria, February 11–13, 2008 (Session Chair).

- The Third IASTED International Conference on Computational Intelligence (CI 2007), Banff, Alberta, Canada, July 2-4, 2007 (Conference Chair and Session Chair).
- The 2nd International Work-Conference on the Interplay between Natural and Artificial Computation (IWINAC 2007), La Manga del Mar Menor, Murcia, Spain, June 18-21, 2007 (Chairman of The Special Session “Bio-inspired Distributed Computing” and member of the Scientific Committee).
- The International Conference on Autonomic and Autonomous Systems (ICAS’07), Athens, Greece, July 19-25, 2007 (member of the Technical Program Committee).
- The International Multi-Conference on Computing in the Global Information Technology (ICCGI’07), Guadeloupe, French Caribbean, March 4-9, 2007 (member of the Technical Program Committee).
- The IASTED International Conference on Computational Intelligence (CI 2006), San Francisco, November 20-22, 2006 (member of the International Program Committee).
- The International Multi-Conference on Computing in the Global Information Technology (ICCGI’06), Bucharest, Romania, August 1-3, 2006 (member of the Technical Program Committee).
- The 10th International Conference on Optimization of Electrical and Electronic Equipment (OPTIM ’06), May 18-19, 2006, Brasov, Romania (member of the International Steering Committee).
- The International Conference on Autonomic and Autonomous Systems (ICAS’06), Silicon Valley, July 19-21, 2006 (member of the Technical Program Committee).
- The IADIS Virtual Intelligent Systems and Agents Conference (ISA2005), part of the Multi Conference on Computer Science and Information Systems (MCCSIS 2005), member of the Scientific Committee.
- The IASTED International Conference on Computational Intelligence (CI 2005), Calgary, Canada, July 4-6, 2005 (member of the International Program Committee).
- The 9th International Conference on Optimization of Electrical and Electronic Equipment (OPTIM ’04), May 20-22, 2004, Brasov, Romania (member of the International Steering Committee).
- The 12th European Symposium on Artificial Neural Networks, Bruges, Belgium, April 28-30, 2004 (chairman of the special session “Neural Networks for Data Mining”).
- The 2nd IASTED International Conference on Neural Networks and Computational Intelligence (NCI 2004), Grindelwald, Switzerland, February 23-25, 2004 (member of the Program Committee).
- International Symposium on Signals, Circuits & Systems (SCS 2003), Iasi, Romania, July 10-11, 2003 (Session Chair).
- International ICSC Symposium on Engineering of Intelligent Systems, Tenerife, Spain, February 11-13, 1998 (Session Chair).
- International Workshop on Neural Research Priorities in Data Transmission and EDA, Department of Electronics and Computers, Transylvania University of Brasov, Romania, May 26-27, 1997 (General Chair).
- International Workshop on “The Next Generation of Neural Network Chips” (ANITA), Department of Computer Systems, Uppsala University, Sweden, December 9-10, 1996 (member of the Program Committee).

• Research Experience Other Than Faculty Appointments

2017 - 2020	Senior Research Consultant, Siemens Corporate Technology, Romania
2003 - 2003	Project Leader and Senior Research Scientist, contractor cathAia Inc. (www.cathaia.com), Budapest, Hungary <i>Activities performed:</i> <ul style="list-style-type: none"> • Architect of a general purpose distributed dynamic job-shop scheduling device.
2000 - 2003	Knowledge Engineer, part time WiseUncle Inc. (www.wiseuncle.com) Toronto, Canada <i>Activities performed:</i> <ul style="list-style-type: none"> • Architect of an intelligent advisor for e-commerce. • Design and Java implementation of inference and data mining tools based on neural networks, genetic algorithms and fuzzy logic. • Aggregation module for multicriterial decision making based on adaptive OWA (Ordered Weighted Averaging Operators). • Design and Java implementation of a complex on-line prediction tool used in data mining, marketing, financial forecasting and e-commerce.

- 1992 - 1997** **Senior Research Scientist, Group Leader, part time**
 Computational Intelligence Research Group, **Research Institute for Computer Technique, Brasov, Romania.**
Activities performed:
- *Analysis, design and C++ programming of applications using neural networks and image processing techniques.*
 - *Supervised projects:*
 - *Economic forecasting by neural networks.*
 - *Mathematical morphology and artificial intelligence techniques in digital image processing.*
 - *Class library for fundamental data structures.*
- 1984 - 1992** **Senior Research Scientist, Group Leader**
 Image Processing Research Group, **Research Institute for Computer Technique, Brasov, Romania.**
Activities performed:
- *Supervising a team of five programmers and computer engineers for image processing and artificial intelligence applications.*
 - *Design and implementation of image and signal processing algorithms.*
 - *The applications written included medical and biological image processing and artificial intelligence software.*
 - *Supervised projects:*
 - *IT - 88, a multiprocessor computer specialized for image processing.*
 - *TIMPA, a software package for tomographic image processing and analysis.*
 - *IRIAN, a medical diagnosis system based on iris image analysis.*
 - *A microbiological image analysis system.*

• Awards

- Senior Member of IEEE (2003) and ACM (2011).
- The presentation: Razvan Andonie, Levente Fabry-Asztalos, Bogdan Crivat, Sarah Abdul-Wahid, Badi' Abdul-Wahid. *Fuzzy ARTMAP Rule Extraction in Computational Chemistry* has received the **Best Poster Award Runner-up** award at the IEEE International Joint Conference on Neural Networks (IJCNN 2009), Atlanta, June 14-19, 2009.
- The poster: Badi' Abdul-Wahid, Grant I. Barker, Sarah Abdul-Wahid, Luke Magill, Catharine Collar, Nicholas Salim, Razvan Andonie, Levente Fabry-Asztalos. *Using Computational Intelligence as Predictive Tool for Biological Activities of Drug Candidates Targeted Towards Therapeutically Important Enzymes for Rapid Screening* was accepted for presentation at "Posters on the Hill", Council on Undergraduate Research, Capitol Hill, Washington DC, May 5th, 2009. Only a small number of posters are selected from across the nation to this event. The posters are presented to the members of Congress (<http://www.cur.org/postersession.html>).
- The presentation: Andonie, R., Fabry-Asztalos, L., Abdul-Wahid, Collar, C., S., Salim, N. *An Integrated Soft Computing Approach for Predicting Biological Activity of Potential HIV-1 Protease Inhibitors*, 2006 IEEE World Congress on Computational Intelligence, IEEE International Conference on Neural Networks (IJCNN 2006), Vancouver, BC, Canada, July 16-21, 2006, has received the **Best Session Presentation Award**.
- Four times, first place at Romanian national student research contests, 1976 - 1978.