



LEON FLORIN scientific manager of the CO team

Web page address: <http://florinleon.byethost24.com>

Contribution in project: neural network based modelling, optimization with evolutionary algorithms, software elaboration.

1. Personal information

Name and surname: LEON Florin

Date and place of birth: 10 March 1977, Iași, Romania

Present academic position: Associate Professor

Current address: Bd. Mangeron 27, 700050 Iași

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2. Education

Nov. 2005 - Oct. 2007 - Researcher in postdoctoral program CEEEX 2D 3202 "Spatial Infrastructure Information (SII) Based Management for Seismic Vulnerability of Built Urban Fund"

Oct. 2001 - May 2005 - PhD in Computer Science, Artificial Intelligence, at Technical University "Gh. Asachi" Iasi (UTI), Romania, Department of Computer Science and Engineering, with thesis "New Classes of Intelligent Agents with Cognitive Capabilities", scientific advisor: Prof. Dr. Eng. Dan Gâlea

1996-2001 - Department of Computer Science and Engineering, UTI; 5-year average: 9.37; Master of Engineering exam average: 9.02

1992-1996 - National College Iasi; High school average: 9.56; Bacalaureate average: 9.45

3. Professional experience

Oct. 2012 - present – Associate Professor, Faculty of Automatic Control and Computer Science, Department of Computer Engineering, “Gheorghe Asachi” Technical University of Iasi: Artificial Intelligence, Software Engineering, Software Project Management, Modelling and Analysis of Multiagent Systems.

Apr. 2006 - Oct. 2012 - Lecturer, Faculty of Automatic Control and Computer Science, Department of Computer Science and Engineering, “Gheorghe Asachi” Technical University: Artificial Intelligence, Software Engineering, Software Project Management, Applications of Artificial Intelligence, Neural Networks, Web mining.

May 2007, April 2008, May 2010, April 2012, April 2013 - invited lecturer at the University of Applied Sciences, Konstanz, Germany, “Artificial Intelligence Methods: From Search to Knowledge”.

Oct. 2005 - Mar. 2006 - Assistant, Department of Computer Science and Engineering: Artificial Intelligence, Software Engineering.

July 2004: BEST Summer course with foreign students, Multimedia Technology for Web Design.

Oct. 2003 - Feb. 2005 - Associated assistant, Department of Computer Science and Engineering: Artificial Intelligence, Software Engineering, Applications of Artificial Intelligence (master), Neural Networks (master).

Oct. 2001 - Jun. 2003 - Associated instructor, Department of Computer Science and Engineering: Software Engineering, Artificial Intelligence, Applications of Artificial Intelligence (master).

4. Research interests

The research interests focus on the fields of intelligent agents and data mining, as well as interdisciplinary works regarding the application of data mining algorithms to industrial chemistry and civil engineering. In the optimization domain, several methods based on genetic algorithms, hybrid methods and differential evolution were applied. Neural networks, stacked multilayer perceptrons have also been used to model processes. These two main directions were reflected into three software patents being registered.

5. Other academic activities

Scientific reviewer: International Network for Engineering Education and Research, iNEER (2006), International Journal of Quantum Chemistry (2006), AIEDAM special issue based on the Third International Conference on Design Computing and Cognition (2009), Buletinul Institutului Politehnic din Iasi (2010), Int. Conf. Syst. Theory and Control (2010), Journal of Autonomous Agents and Multiagent Systems, JAAMAS (2011), Environmental Management and Engineering, EME (2011), 10th International Workshop on Data Mining in Bioinformatics, BIODDD (2011), ICSTCC 2011, International Journal of Science and Technology Education Research (2011), Mathematical Problems in Engineering (2011), International Conference on Computer and Computational Intelligence (2012, 2013).

6. Selected publications

Abbreviations: **IF** = Impact Factor, **RS** = Relative influence Score of the journal, **PI-I** = Principal Investigator as paper's first author, **PI-C** = Principal Investigator as paper corresponding author.

Summary of the publications: Total no. of papers = 99; ISI indexed no. of papers = 25; BDI no. = 28; no. of papers in conference volumes = 42; no. of monographs = 2; no. of patents = 3; no. of contracts as project manager = 1; no. of contracts as execution member = 25.

Cumulative IF = 12.326; cumulative RS = 8.61105.

Selected papers

1. Silvia Curteanu, **Florin Leon**, Dan Galea; Alternatives for Multiobjective Optimization of a Polymerization Process; *Journal of Applied Polymer Science*, vol. 100, issue 5, pp. 3680-3695, Wiley Periodicals, USA; 2006; ISSN 0021-8995; IF = 1.240; RS = 0.99083.
2. Silvia Curteanu, **Florin Leon**; Hybrid Neural Network Models Applied to a Free Radical Polymerization Process; *Polymer-Plastics Technology and Engineering*, vol. 45, no. 9, pp. 1013-1023, Marcel Dekker, USA; 2006; ISSN 0360-2559; IF = 0.557; RS = 0.36086.
3. **Florin Leon**, Silvia Curteanu, Catalin Lisa, Nicolae Hurduc; Machine Learning Methods Used to Predict the Liquid-Crystalline Behavior of Some Copolyethers; *Molecular Crystals & Liquid Crystals*, vol. 469, pp. 1-22, Taylor & Francis Group, USA; 2007; ISSN 1542-1406; IF = 0.543; RS = 0.36041, PI-1.
4. Silvia Curteanu, **Florin Leon**; Optimization Strategy Based on Genetic Algorithms and Neural Networks Applied to a Polymerization Process; *International Journal of*

Quantum Chemistry, vol. 108, pp. 617-630, Wiley Periodicals, USA; 2008; ISSN 0020-7608; IF = 1.302; RS = 0.69573.

5. **Florin Leon**, Mihai Horia Zaharia, Dan Galea; Emergent Dynamic Routing Using Intelligent Agents in Mobile Computing; *Studies in Informatics and Control*, vol. 17, nr. 2, June 2008, pp. 215-224, Informatics and Control Publications; 2008; ISSN 1220-1766; IF = 0.671; PI-1.
6. Mihai Horia Zaharia, **Florin Leon**; Speech Therapy Based on Expert System; *Advances in Electrical and Computer Engineering, Suceava, Romania*, no. 1/2009, pp 74-77; 2009; ISSN 1582-7445; IF = 0.688.
7. **Florin Leon**, Catalin Lisa, Silvia Curteanu; Prediction of the Liquid Crystalline Property Using Different Classification Methods; *Molecular Crystals and Liquid Crystals*, vol. 518, pp. 129-148; 2010; ISSN 1542-1406 (print), ISSN 1563-5287 (online); IF = 0.543; RS= 0.36041; PI-1.
8. Ciprian George Piuleac, Ioannis Poullos, **Florin Leon**, Silvia Curteanu, A. Kouras; Modeling Methodology Based on Stacked Neural Networks Applied to the Photocatalytic Degradation of Triclopyr; *Separation Science and Technology, Taylor & Francis, USA*, vol. 45, pp. 1644-1650; 2010; ISSN 0149-6395 (print), ISSN 1520-5754 (online); IF = 1.015; RS = 1.00155.
9. **Florin Leon**, Mihai Horia Zaharia; Stacked Heterogeneous Neural Networks for Time Series Forecasting; *Mathematical Problems in Engineering*, vol. 2010, Article ID 373648, 20 pages; 2010; ISSN 1024-123X; IF = 0.689; RS = 0.55539; PI-1.
10. **Florin Leon**, Ciprian George Piuleac, Silvia Curteanu; Stacked Neural Network Modeling Applied to the Synthesis of Polyacrylamide Based Multicomponent Hydrogels; *Macromolecular Reaction Engineering*, vol. 4, pp. 591-598, WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim, Germany; 2010; ISSN 1862-832X; IF = 1.701; RS = 1.01852; PI-1.
11. Renata Furtuna, Silvia Curteanu, **Florin Leon**; An Elitist Non-Dominated Sorting Genetic Algorithm Enhanced with a Neural Network Applied to the Multi-Objective Optimization of a Polysiloxane Synthesis Process; *Engineering Applications of Artificial Intelligence, Elsevier*, vol. 24, pp. 772-785; 2011; ISSN 0952-1976; IF = 1.344; RS = 1.35598.
12. Elena-Niculina Dragoi, Silvia Curteanu, **Florin Leon**, Anca-Irina Galaction, Dan Cascaval; Modeling of oxygen mass transfer in the presence of oxygen-vectors using neural networks developed by differential evolution algorithm; *Engineering Applications of Artificial Intelligence, Elsevier*, vol. 24, issue 7, Oct. 2011, pp. 1214-1226 *Infrastructures and Tools for Multiagent Systems*; 2011; ISSN 0952-1976; IF =1.344; RS = 1.35598.
13. Renata Furtună, Silvia Curteanu, **Florin Leon**, Multi-objective Optimization of a Stacked Neural Network Using NSGA-II-QNSNN Algorithm, *Applied Soft Computing*, DOI: 10.1016/j.asoc.2011.09.001, 2011, IF = 2.084, RS = 1.11183.

14. **Florin Leon**; Emergent Behaviors in Social Networks of Adaptive Agents; *Mathematical Problems in Engineering, vol. 2012, Article ID 857512, 19 pages*; 2012; ISSN: 1024-123X; IF = 0.689; RS = 0.55539.

Selected books

1. **Florin Leon**, Artificial Intelligence: Probabilistic Reasoning, Classification Techniques, Tehnopress, Iași, ISBN 978-973-702-932-4, 2012, 193 pag.
2. **Florin Leon**, Software Engineering Applications in C#, Tehnopress, Iași, ISBN 978-973-702-909-6, 2012, 264 pag.
3. **Florin Leon** (2006). Intelligent Agents with Cognitive Capabilities, Tehnopress, Iasi, ISBN 978-973-702-422-0, 271 pag.
4. **Florin Leon** (2008). Web Mining. Applications, Tehnopress, Iasi, ISBN 978-973-702-530-2, 149 pag.
5. **Florin Leon** (2006). Intelligent Agents with Cognitive Capabilities, Tehnopress, Iasi, ISBN 978-973-702-422-0, 271 pag.
6. **Florin Leon**, Mihai Horia Zaharia (2005). Software Engineering, Politehniium, Iasi, ISBN 973-621-131-2, 192 pag.
7. Mihai Horia Zaharia, **Florin Leon** (2004). C Language from Zero to Student, Politehniium, Iasi, ISBN 973-621-099-5, 321 pag.

Selected patents

1. "Artificial Intelligence Toolbox. Neural Network Topology"
Silvia Curteanu, Florin Leon
ORDA, no. 14226/26.10.2010.
2. "Genetic algorithms. Multi-objective scalar optimization"
Florin Leon, **Silvia Curteanu**
ORDA, no. 14404/5.11.2010.
3. "Neural network stacks"
Florin Leon, **Silvia Curteanu**
ORDA, no. 14506/12.11.2010.

Selected contracts

1. Behavioural Patterns Library for Intelligent Agents Used in Engineering and Management, PNII Project, IDEI, code 316/2008, contract no. 671/19.01.2009, period: **2009-2011**, project manager: **Florin Leon**.

2. SERIES: Seismic Engineering Research Infrastructures for European Synergies, FP7 project no. 227887/2009, period: **2009-2012**, TUIasi research group leader: Gabriela Maria Atanasiu
3. EFAST: Design Study of a European Facility for Advanced Seismic Testing, FP7 project no. 212109/2007, period: **2008-2011**, TUIasi research group leader: Gabriela Maria Atanasiu
4. Modeling and optimal control based on artificial intelligence tools for chemical and process engineering applications, PN II, grant nr. 71 – 006/18.09.2007, **2007-2010**, project manager: Silvia Curteanu
5. Soft computing hybrid configurations applied in chemistry”, PCE ID_592, grant 59/1.10.2007, **2007-2010**, project manager: Silvia Curteanu
6. The diagnosis of urban infrastructure vulnerability at natural disasters and integrated risk k-management. Application for Iasi City (e-KnowRISKSAFE), PN II, no. 31065/2007, period: **2007-2010**, project manager: Gabriela Maria Atanasiu.
7. “Optimal control for free radical polymerization of methyl methacrylate”, **2000-2002**, project manager.
8. „Applications of neural networks and genetic algorithms in polymer reaction engineering”, grant CERES, no. 4-22/2004, **2004-2006**, project manager: Silvia Curteanu.
9. „Artificial intelligence techniques applied to synthesis and complexing processes of functionalized polysiloxanes”, grant CNCSIS, **2006-2008**, project manager: Silvia Curteanu.
10. “Contributions to styrene free radical polymerization process through modeling and optimization”, national project type CERES, no. 47/15.10.2001, **2001-2004**.
11. “Multi-disciplinary researches in the information technology domain based on genetic algorithms, neural networks and fuzzy systems with applications in engineering and management”, national project type CERES, no. 29/12.11.2002, **2002-2004**.
12. „Multi-phases polymeric materials – biodegradable, biocompatible, biological active, artificial motile systems – applied in medicine and environmental protection. Simulation using artificial intelligence instruments”, national project type CERES, no. 3-51/2003, **2003-2005**.
13. „Polymeric nanostructured composite materials used in environmental monitoring. Modeling and optimization with neural networks and genetic algorithms”, national project type CEEEX no. 10/10.10.2005, **2005-2008**.
14. „Multifunctional nanostructured silicone materials. Artificial intelligence techniques applied to modeling and optimization of silicone materials”, national project type CEEEX no. 52/2006, subcontract 1, **2006-2008**.