

Adriana Birlutiu

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Research interests

Machine Learning, Data Science, Artificial Intelligence.

Current Position

Lecturer within the Computer Science Department, 1 Decembrie 1918 University of Alba Iulia, Romania.

Appointments

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| Feb. 2015—present | Lecturer, Computer Science Department, 1 Decembrie 1918 University of Alba Iulia, Romania. |
| Oct. 2012—Jan. 2015 | Assistant professor, Computer Science Department, 1 Decembrie 1918 University of Alba Iulia, Romania. |
| Oct. 2011—Sept. 2012 | Scientific programmer, OncoPredict&S.A.I.A, Cluj-Napoca, Romania. |
| Feb. 2007—Oct. 2011 | Junior researcher at the Institute for Computing and Information Sciences, Radboud University Nijmegen, Netherlands. |
| Apr. 2006—Jan. 2007 | Research intern at GN Resound Eindhoven and Radboud University Nijmegen, Netherlands. |
| Jul. 2005—Mar. 2006 | Intern at Xtec, Luxembourg. |

Education

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| 2007—2011: | Ph.D. – Computer Science, Institute for Computing and Information Sciences, Radboud University Nijmegen, Netherlands. <ul style="list-style-type: none">• Dissertation title: <i>Machine learning for pairwise data. Applications for preference learning and supervised network inference</i>” (defended on 18th of October 2011).• Thesis advisor: Prof. Dr. Tom Heskes.• Thesis committee: Prof. Dr. Lutgarde Buydens (Radboud University Nijmegen, Netherlands), Prof. Dr. Arno Siebes (Utrecht University, Netherlands), Prof. Dr. Barbara Hammer (Biefeld University, Germany). |
| 2004—2006: | M.Sc. – Computer Science, Babeş-Bolyai University of Cluj-Napoca, Romania. |
| 2000—2004: | B.Sc. – Mathematics and Computer Science, Babeş-Bolyai University of Cluj-Napoca, Romania. |

Grants and Awards

- 2016 Postdoctoral grant offered by the Regional Francophone Center for Advanced Research in Social Sciences, within the University of Bucharest. Project title: *Document analysis through linguistic and statistical approaches*.
- 2016 Research grant financed through the Romanian Research Agency UEFISCDI/ PN-III-P2-2.1-BG-2016-0333 *SIVAP: Intelligent system based on machine learning and computer vision for the optimization of the manufacturing process of porcelain*.
- 2013 Research grant financed through the Romanian Research Agency UEFISCDI/PN-II-PT-PCCA-2013-4-1959 *IntelCor: Non- invasive Intelligent Systems for Diagnosis and Prognosis in Colorectal Cancer based on Circulating microRNA Integrated in the Clinical Workflow*. Project team member.
- 2011 Research grant financed through the Romanian Research Agency UEFISCDI/PN-II-PT-PCCA-2011-3.1-1221 *IntelUro: Intelligent Systems for Recurrence and Progression Prediction in Superficial Bladder Cancer based on Artificial Intelligence and Microarray Data: tumor mRNA and plasma microRNA*. Project team member.
- 2010 Frye stipendia, Radboud University Nijmegen, Netherlands (awarded each year to 10 female Ph.D. students of the University).
- 2004—2005 European Union Erasmus-Socrates scholarship to study at Paul-Verlain Université de Metz (now University of Lorraine), France (1 year during master studies).
- 2000—2004 Meritorious Fellowship offered by the Romanian Department of Education (during undergraduate studies).

Research Visits

- Jun. 2016—Jul. 2016 Pattern Recognition Lab, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany (contact: Prof. Dr. Andreas K. Maier). Working on machine learning applied to medical image analysis.
- Aug. 2015—Sept. 2015 Department of Knowledge-Based Mathematical Systems, Johannes Kepler University Linz, Austria (contact: Prof. Dr. Susanne Saminger-Platz). Working on applications of machine learning in chemometrics.
- Jun. 2014—Aug. 2014 Software Competence Center Hagenberg, Austria (contact: Dr. Thomas Natschlager). Working on applications of machine learning and transfer learning in the industrial field, in particular in energy efficiency.
- Jun. 2010—Aug. 2010 IBISC Laboratory, Université d'Evry-Val d'Essonne Genopole, France (contact: Prof. Dr. Florence d'Alche-Buc). Working on link transfer for protein-protein interaction prediction using data from multiple species.

Professional service

Reviewer for: IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Neural Networks and Learning Systems, Neural Processing Letters, Pattern Recognition Letters, Workshops associated with Neural Information Processing Systems Conference, European Commission.

Teaching Experience

- 2016—present ERASMUS+ Departmental Coordinator, “1 Decembrie 1918” University of Alba Iulia.
- 2015—present Responsible for the Machine Learning and Pattern Recognition course at “1 Decembrie 1918” University of Alba Iulia.

- 2012—present Regularly teaching various courses, exercises and lectures, for students in Computer Science at „1 Decembrie 1918” University of Alba Iulia, Romania.
- 2008—2010 Teaching assistant for the Data Mining course at Radboud University Nijmegen, Netherlands.

List of Publications

Ph.D. Dissertation

1. **Machine learning for pairwise data: applications for preference learning and supervised network inference.** A. Birlutiu, Ph.D. Dissertation, Radboud University Nijmegen, Netherlands, ISBN: 9789088913303, pp. 135, 2011.

Journals and Book Chapters

2. **Multi-Domain Transfer Component Analysis for Domain Generalization** T. Grubinger, A. Birlutiu, H. Schoner, T. Natschläger, T. Heskes. (under review).
3. **Standard-free calibration transfer - An evaluation of different techniques** B. Malli, A. Birlutiu, T. Natschläger. *Chemometrics and Intelligent Laboratory Systems*, Volume 161, 15 February 2017, Pages 49-60, ISSN 0169-7439, <http://dx.doi.org/10.1016/j.chemolab.2016.12.008>.
4. **A Bayesian Framework for Combining Protein and Network Topology Information for Predicting Protein-Protein Interactions.** A. Birlutiu, F. d Alche-Buc, T. Heskes. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, vol. 12(3), pp. 538-550, ISSN: 1545-5963, 2015.
5. **Efficiently Learning the Preferences of People.** A. Birlutiu, P. Groot, T. Heskes. *Machine Learning Journal*, vol. 90(1), pp 1–28, ISSN: 0885-6125.
6. **Reverse Engineering Networks as Ordinary Differential Equations Systems.** A. Floares, A. Birlutiu. In A. Floares (ed.) *Computational Intelligence*, NOVA Science Publishers Inc, 2012, ISBN: 978-1-62081-901-2 (print), ISBN: 978-1-62081-959-3 (ebook).
7. **Transcriptional Plasticity of a Soil Arthropod Across Different Ecological Conditions.** T.E. De Boer, A. Birlutiu , Z. Bochdanovits, M.J.T.N. Timmerman, T.M.H. Dijkstra, N.M. van Straalen, B. Ylstra, D. Roelofs. *Molecular Ecology*, ISSN: 0962-1083, vol: 20, issue: 6, pp. 1144-1154, 2011.
8. **Multi-Task Preference Learning with an Application to Hearing-Aid Personalization.** A. Birlutiu, P. Groot, T. Heskes. *Neurocomputing*, ISSN: 0925-2312, vol: 73, issue: 7-9, pp. 1177-1185, 2010.

Conferences and Workshops

9. **A Kernel-based Framework for Intra-fractional Respiratory Motion Estimation in Radiation Therapy.** T. Geimer, M. Unberath, A. Birlutiu, O. Taubmann, J. Wölfelschneider, C. Bert, A. Maier. *IEEE International Symposium on Biomedical Imaging*, Melbourne, 18-21.04.2017.
10. **A Kernel Ridge Regression Model for Respiratory Motion Estimation in Radiotherapy.** T. Geimer, A. Birlutiu, M. Unberath, O. Taubmann, C. Bert, A. Maier. *Bildverarbeitung für die Medizin 2017 - Heidelberg*, 12.-14.03.2017.
11. **Domain Generalization based on Transfer Component Analysis.** T. Grubinger, A. Birlutiu, H. Schoner, T. Natschläger, T. Heskes. *IWANN International Work Conference on Artificial Neural Networks*, 13th International Work-Conference on Artificial Neural Networks, IWANN 2015, Palma de Mallorca, Spain, June 10-12, 2015. *Proceedings, Part I. Series Volume: 9094*, pp. 325-334. Series ISSN 0302-9743, 2015.
12. **Using Topology Information for Protein-Protein Interaction Prediction.** A. Birlutiu, T. Heskes. *9th IAPR International Conference, PRIB 2014*, Stockholm, Sweden, August 21-23, 2014. *Proceedings, Lecture Notes in Computer Science*, Springer International Publishing, volume 8626, pp. 10-22, 2014.

13. **Identifying relevant microRNAs in bladder cancer using multi-task learning.** Birlutiu, P. Bulzu, I. Iereminciuc, A. Floares. Eleventh International Meeting on Computational Intelligence Methods for Bioinformatics and Biostatistics, University of Cambridge, UK, June 2014.
14. **Integration of Clinico-Pathological and microRNA Data for Intelligent Breast Cancer Relapse Prediction Systems.** Birlutiu, D. Ardevan, P. Bulzu, C. Pinteau, A. Floares. 10th International Meeting, CIBB 2013, Nice, France, June 20-22, 2013, Revised Selected Papers, Lecture Notes in Computer Science, Volume: 8452, pp. 178-193, Nice, France, 2013.
15. **Decision tree models for developing molecular classifiers for cancer diagnosis.** Floares, A. Birlutiu. International Joint Conference on Neural Networks (IJCNN), Brisbane, Australia, June 10-15, 2012, pp. 1-7. Publisher: IEEE. ISSN: 2161-4393, Print ISBN: 978-1-4673-1488-6, 2012.
16. **Learning from Multiple Annotators with Gaussian Processes.** P. Groot, A. Birlutiu, T. Heskes. Proceedings of the 21st International Conference on Artificial Neural Networks (ICANN), Espoo, Finland, Lecture Notes in Computer Science, Springer, vol 6792, Part II, pp. 159-164, ISBN: 978-3-642-21737-1, 2011.
17. **Regularized Output Kernel Regression for Protein-Protein Interaction Prediction: Application to Link Transfer and Transduction.** F. d'Alche-Buc, A. Birlutiu, C. Brouard, T. Heskes, M. Szafranski. Machine Learning in Computational Biology workshop at Neural Information Processing Systems conference, Vancouver, Canada, December 2010.
18. **Bayesian Monte Carlo for the Global Optimization of Expensive Functions.** P. Groot, A. Birlutiu, T. Heskes. Proceedings of the 19th European Conference on Artificial Intelligence (ECAI), Lisbon, Portugal, IOS Press, Frontiers in Artificial Intelligence and Applications, vol. 215, pp. 249-254, 2010, ISBN: 978-1-60750-605-8, 2010.
19. **Does the immune system have an influence on malaria parasite gene expression?** A. Birlutiu, T. Dijkstra, M. van Gerven, T. Heskes. In The 5th Netherlands Institute for Systems Biology Symposium, Netherlands, 2009.
20. **Multi-Task Preference Learning with Gaussian Processes.** A. Birlutiu, P. Groot, T. Heskes. ESANN 2009, 17th European Symposium on Artificial Neural Networks, Bruges, Belgium, online proceedings, pp. 123-128, 2009.
21. **Optimal Experimental Design in a Hierarchical Setting for Probabilistic Choice Models.** A. Birlutiu, T. Heskes. Workshop on Cost-Sensitive Learning at the Neural Information Processing Systems conference, Vancouver, Canada, December 2008.
22. **Bayesian Incremental Utility Elicitation with Application to Hearing Aids Personalization.** A. Birlutiu, T. Heskes, B. de Vries, A. Ypma, T. Dijkstra. Scientific ICT-Research Event Netherlands, Amsterdam, September 2008.
23. **Expectation Propagation for Rating Players in Sports Competitions.** A. Birlutiu, T. Heskes. Proceedings of Knowledge Discovery in Databases: PKDD 2007, 11th European Conference on Principles and Practice of Knowledge Discovery in Databases, Warsaw, Poland, Lecture Notes in Computer Science, vol. 4702, pp. 374-381, Springer, ISBN: 978-3-540-74975-2, 2007.