List of Publications

andrés r. masegosa

8/2/2021

I highlight my 10 most relevant publications in bold.

journal papers

1. Masegosa AR, Cabañas R, Langseth H, Nielsen TD, Salmerón A. (2021) Probabilistic Models with Deep Neural Networks. *Entropy*. 2021; 23(1):117. JCR Q2.

2. **Cózar, J., Cabañas, R., Salmerón, A., & Masegosa, A. R. (2020). InferPy: Probabilistic modeling with deep neural networks made easy. Neurocomputing, 415, 408-410. JCR Q1.**

3. **Masegosa, A. R., Ramos-López, D., Salmerón, A., Langseth, H., & Nielsen, T. D. (2020). Variational Inference over Nonstationary Data Streams for Exponential Family Models. Mathematics, 8(11), 1942. JCR Q1.**

4. Masegosa, A. R., Martínez, A. M., Ramos-López, D., Langseth, H., Nielsen, T. D., & Salmerón, A. (2020). Analyzing concept drift: A case study in the financial sector. Intelligent Data Analysis, 24(3), 665-688. JCR Q4.

5. Cabañas, R., Salmerón, A., & Masegosa, A. R. (2019). InferPy: Probabilistic modeling with Tensorflow made easy. Knowledge-Based Systems, 168, 25-27. JCR Q1.

6. Masegosa, A. R., Martinez, A. M., Ramos-López, D., Cabañas, R., Salmerón, A., Langseth, H.,& Madsen, A. L. (2019). AMIDST: A Java toolbox for scalable probabilistic machine learning. Knowledge-Based Systems, 163, 595-597. JCR Q1.

7. Masegosa, A. R., Martinez, A. M., Langseth, H., Nielsen, T. D., Salmerón, A., Ramos-López, D., & Madsen, A. L. (2017). Scaling up Bayesian variational inference using distributed computing clusters.

I*nternational Journal of Approximate Reasoning*, *88*, 435-451. JCR. Q2. T1.

8. **Masegosa, A. R., Martinez, A. M., & Borchani, H. (2016). Probabilistic graphical models on multi-core CPUs using Java 8. *IEEE Computational Intelligence Magazine*, *11*(2), 41-54. JCR. Q1**

9. Masegosa, A. R., Feelders, A. J., & van der Gaag, L. C. (2016). Learning from incomplete data in Bayesian networks with qualitative influences. *International Journal of Approximate Reasoning*, *69*, 18-34. JCR. Q2. T1

10. Masegosa, A. R., Armañanzas, R., M Abad-Grau, M., Potenciano, V., Moral, S., Larrañaga, P., & Matesanz, F. (2015). Discretization of Expression Quantitative Trait Loci in Association Analysis Between Genotypes and Expression Data. *Current Bioinformatics*, *10*(2), 144-164. JCR. Q4.

11. Masegosa, A. R., & Moral, S. (2014). Imprecise probability models for learning multinomial distributions from data. Applications to learning credal networks. *International Journal of Approximate Reasoning*, *55*(7), 1548-1569. JCR Q1

12. Masegosa, A. R., & Moral, S. (2014). Rejoinder on "Imprecise probability models for learning multinomial distributions from data. Applications to learning credal networks". *International Journal of Approximate Reasoning*, *55*(7), 1618-1622. JCR Q1.

13. Abellán, J., Baker, R. M., Coolen, F. P., Crossman, R. J., & Masegosa, A. R. (2014). Classification with decision trees from a nonparametric predictive inference perspective. *Computational Statistics & Data Analysis*, *71*, 789-802. JCR. Q3

14. Masegosa, A. R., & Moral, S. (2013). An interactive approach for Bayesian network learning using domain/expert knowledge. *International Journal of Approximate Reasoning*, *54*(8), 1168-1181. JCR. Q1

15. Cano, A., Gómez-Olmedo, M., Masegosa, A. R., & Moral, S. (2013). Locally averaged Bayesian Dirichlet metrics for learning the structure and the parameters of Bayesian networks. *International Journal of Approximate Reasoning*, *54*(4), 526-540. JCR. Q1

16. Masegosa, A. R., & Moral, S. (2013). New skeleton-based approaches for Bayesian structure learning of Bayesian networks. *Applied Soft Computing*, *13*(2), 1110-1120. JCR. Q1

17. Masegosa, A. R., & Moral, S. (2012). A Bayesian stochastic search method for discovering Markov boundaries. *Knowledge-Based Systems*, *35*, 211-223. JCR. Q1

18. Abellan, J., & Masegosa, A. R. (2012). Imprecise classification with credal decision trees. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, *20*(05), 763-787. Artículo. JCR. Q3

19. Abellán, J. & Masegosa, A. R. (2012). Bagging schemes on the presence of class noise in classification. Expert Systems with Applications, 39(8), pp 6827-6837 JCR. Q2. T1.

20. Cano, A., Masegosa, A. R., & Moral, S. (2011). A method for integrating expert knowledge when learning Bayesian networks from data. IEEE Transactions on Systems, Man, and Cybernetic Part B, 41(5), 1382-1394. JCR. Q1. Position 10/111.

21. Abellán, J., Cano, A., Masegosa, A. R., & Moral, S. (2011). A memory efficient semi-Naive Bayes classifier with grouping of cases. Intelligent Data Analysis, 15(3), 299-318. JCR. Q4.

22. Abellan, J., & Masegosa, A. R. (2010). An ensemble method using credal decision trees. European journal of operational research, 205(1), 218-226. JCR. Q1

23. Abellan, J., & Masegosa, A. R. (2009). A filter-wrapper method to select variables for the naive bayes classifier based on credal decision trees. International Journal of Uncetainty, Fuzziness and Knowledge-Based Systems, 17(06), 833-854. JCR. Q3

24. Abellan, J., & Masegosa, A. (2008). Requirements for total uncertainty measures in Dempster-Shafer theory of evidence. Intemational journal of general systems, 37(6), 733-747. JCR. Q3

25. Cano, A., Castellano, J. G., Masegosa, A. R., & Moral, S. Selective gaussian naive bayes model for diffuse large-B-cell lymphoma classification: Some improvements in preprocessing and variable elimination. ECSQARU 2005, LNAI 3571, pp. 908-920, 2005. JCR. Q4

26. Cano, A., Castellano, J. G., Masegosa, A. R., & Moral, S. (2005, July). Methods to determine the branching attribute in Bayesian multinets classifiers. ECSQARU 2005, LNAI 3571, pp 932-943, 2005. JCR. Q4

book chapters

1. *Giorgio Corani, Joaquín Abellán, Andrés Masegosa, Serafin Moral, Marco Zaffalon Chapter 10. Classification. (*Augustin, T., Coolen, F. P., de Cooman, G., & Troffaes, M. C. Eds.). (2014). *Introduction to imprecise probabilities*. John Wiley & Sons. ISBN: 978 111 876 3117

conference papers

Core A* Conferences

1. **Masegosa, A. R. (2020). Learning under model misspecification: Applications to variational and ensemble methods. Advances in Neural Information Processing Systems, NeurIPS, 33. Core A*.**

2. **Masegosa, A. R., Lorenzen, S., Igel, C., & Seldin, Y. (2020). Second order PAC-Bayesian bounds for the weighted majority vote. Advances in Neural Information Processing Systems, NeurIPS, 33. Core A*.**

3. **Masegosa, A., Nielsen, T. D., Langseth, H., Ramos-López, D., Salmerón, A., & Madsen, A. L. (2017, July). Bayesian Models of Data Streams with Hierarchical Power Priors. ICML 2017. PMLR, 70, (pp. 2334-2343). ISSN: 1938-7228. Core A*.**

4. **Masegosa, A. R. (2014). Stochastic discriminative EM. Proceedings of the Thirtieth Conference on Uncertainty in Artificial Intelligence. *2014. AUAI Press. ISBN: 978-0-9749039-1-0.* Core A***

5. Masegosa, A. R., Joho, H., & Jose, J. M. (2007, July). Effects of highly agreed documents in relevancy prediction. In Proceedings of the 30th annual international ACM SIGIR conference on Research and development in information retrieval (pp. 883-884). ISBN: 978-1-59593-597-7. Core A*.

Core A Conferences

1. Salmerón, A., Madsen, A. L., Jensen, F., Langseth, H., Nielsen, T. D., Ramos López, D., & Masegosa, A. R. (2016). Parallel filter-based

feature selection based on balanced incomplete block designs. ECAI 2016. Frontiers in Artificial Intelligence and Applications, vol 285, pp 743-750, ISBN 978-1-61499-672-9. Core A.

2. Borchani, H., Martínez, A. M., Masegosa, A. R., Langseth, H., Nielsen, T. D., Salmerón, A., & Sáez, R. Modeling concept drift: A probabilistic graphical model based approach. IDA 2015. LNCS vol 9385, pp. 72-83, 2015. Core A.

3. Masegosa, A. R., Joho, H., & Jose, J. M. Evaluating query-independent object features for relevancy prediction. ECIR 2007, LNCS 4425, pp. 283-294, 2007. Core A.

Core C Conferences

1. Cabañas, R., Cano, A., Gómez-Olmedo, M., Masegosa, A. R., & Moral, S. (2018, June). Virtual subconcept drift detection in discrete data using probabilistic graphical models. IPMU. (pp. 616-628). Springer, Cham. Core C.

2. Cano, A., Gómez-Olmedo, M., Masegosa, A. R., & Moral, S. (2011, June). Locally averaged Bayesian Dirichlet metrics. ECSQARU 2015. LNAI 6717, pp. 217—228, 20. Core C.

3. Cano, A., Masegosa, A. R., & Moral, S. (2010, June). An importance sampling approach to integrate expert knowledge when learning Bayesian networks from data. IPMU 2010. LNAI 6178, pp. 685-695. Core C.

4. De Campos, L, M., Fernández-Luna, J. M., Huete, J, F., Masegosa, A. R., &Romero, A. E. (2009, December). Link-based text classification using bayesian networks. INEX 2009. LNCS 6203, pp. 397-406, 2009, Congreso Core C.

5. Cano, A., Masegosa, A. R., & Moral, S. A Bayesian random split to build ensembles of classification trees. ECSQARU 2009, LNAI 5590, pp. 469-480, 2009. Core C

6. Abellan J. & Masegosa, A. R. An experimental study about simple decision trees for bagging ensemble on datasets with classification noise. ECSQARU 2009, LNAI 5590, pp. 446-456, 2009.Core C.

7. Abellan J. & Masegosa, A. R. Split criterions for variable selection using decision trees. ECSQARU 2007, LNAI 4724, pp. 489-500, 2007. Core C.

8. Abellan J. & Masegosa, A. R. Combining decision trees based on imprecise probabilities and uncertainty measures. ECSQARU 2007, LNAI 4724, pp. 489-500, 2007. Core C.

9. Abellan J. Cano, A., Masegosa, A. R., & Moral, S. A semi-naive bayes classifier with grouping of cases. ECSQARU 2007, LNAI 4724, pp. 477-488, 2007. Core C.

Peer Reviewed Conferences

1. Dogadov, S., Masegosa, A., & Nakajima, S. (2017). Variational Robust Subspace Clustering with Mean Update Algorithm. ICCV *Workshop*, 2017. ISBN 978-1-5386-1032-9.

2. Cabañas, R., Martínez, A. M., Masegosa, A. R., Ramos-López, D., Samerón, A., Nielsen, T. D., & Madsen, A. L. (2016, December). Financial Data Analysis with PGMs Using AMIDST. In *Data Mining Workshops (ICDMW), 2016 IEEE 16th International Conference on* (pp. 1284-1287). ISBN 978-1-5090-5472-5

3. Masegosa, A. R., Martínez, A. M., Langseth, H., Nielsen, T. D., Salmerón, A., Ramos-López, D., & Madsen, A. L. (2016, August). d-VMP: Distributed variational message passing. PGM 2016. PMLR, *52, pp 321-332*. ISSN: 1938-7228

4. Ramos-López, D., Salmerón, A., Rumı, R., Martınez, A. M., Nielsen, T. D., Masegosa, A. R., & Madsen, A. L. Scalable MAP inference in Bayesian networks based on a Map-Reduce approach. PGM 2016. PMLR, *vol 52, 415-425*, 2016. ISSN: 1938-7228

5. Masegosa, A. R., Martınez, A. M., Ramos-Lopez, D., Langseth, H., Nielsen, T. D., Salmeron, A., & Madsen, A. L. (2016). A Java Toolbox for Analysis of MassIve Data STreams using Probabilistic Graphical Models. In *European Data Forum 2016*.

6. Salmerón, A., Ramos-López, D., Borchani, H., Martínez, A. M., Masegosa, A. R., Fernández, A., & Nielsen, T. D. (2015, November). Parallel importance sampling in conditional linear Gaussian networks. CAEPIA 2015. LNAI 9422, pp 36-46, 2015.

7. Borchani, H., Martínez, A. M., Masegosa, A. R., Langseth, H., Nielsen, T. D., Salmerón, A., & Sáez, R. (2015, November). Dynamic Bayesian modeling for risk prediction in credit operations. In *SCAI* (pp. 17-26). ISBN 978-1-61499-330-8

8. Masegosa, A. R., Martinez, A. M., Borchani, H., Ramos-López, D., Nielsen, T. D., Langseth, H. & Madsen, A. L. (2015). AMIDST: analysis of massive data streams. In *Proceedings of the 27th Benelux Conference on Artificial Intelligence (BNAIC 2015)*.

9. Nielsen, T. D., Hovda, S., Antontio, F., Langseth, H., Madsen, A. L., Masegosa, A., & Salmerón, A. (2014). Requirement Engineering for a Small Project with Pre-Specified Scope. In *Norsk Informatikkonferanse*.

10. Masegosa, A., Abad-Grau, M. M., Moral, S., & Matesanz, F. (2013). Learning classifiers from discretized expression quantitative trait loci. Proceedings of the IWBBIO.

11. Masegosa, A. R., & Moral, S. A New Framework for Learning Generalized Credal Networks. Proceedings of the ISIPTA, 2013. ISBN 978-3-902652-40-9

12. Abad-Grau, M. M., Medina-Medina, N., Masegosa, A. R., & Moral, S. (2012). Haplotype-based Classifiers to Predict Individual Susceptibility to Complex Diseases-An Example for Multiple Sclerosis. In *BIOINFORMATICS* (pp. 360-366). ISBN: 978-989-8425-90-4

13. Masegosa, A. R., & Moral, S. (2012). An interactive approach for cleaning noisy observations in Bayesian networks with the help of an expert. In *6th European Workshop on Probabilistic Graphical Models (PGM 2012)* (pp. 243-250). ISBN: 978-84-15536-57-4

14. Cano, A., Gomez-Olmedo, M., & Masegosa, S. M. A. (2011, November). Learning with Bayesian networks and probability trees to approximate a joint distribution. In *Intelligent Systems Design and Applications (ISDA), 2011 11th International Conference on* (pp. 624-629). IEEE. ISBN 978-1-4577-1575-1

15. Torres-Sánchez, S., Montes-Soldado, R., Medina-Medina, N., Masegosa, A. R., & Abad-Grau, M. M. (2011). Riskoweb: Web-based genetic profiling to complex disease using genome-wide snp markers. In *5th International Conference on Practical Applications of Computational Biology & Bioinformatics (PACBB 2011)*(pp. 1-8). Springer, Berlin, Heidelberg. ISBN 978-3-642-19914-1

16. Cano, A., Gómez-Olmedo, M., Masegosa, A. R., & Moral, S. (2011). Comparing binary and standard probability trees in credal networks inference. *ISIPTA'11*, 109. ISBN 978-3-902652-40-9.

17. Abellán, J., & Masegosa, A. R. (2010, February). Bagging decision trees on data sets with classification noise. FolKS 2010, LNCS 5956, pp. 248-265, 2010.

18. Cano, A., Masegosa, A. R., & Moral, S. A Bayesian approach to estimate probabilities in classification trees. In *4th European Workshop on Probabilistic Graphical Models. 2012.* ISBN: 978-84-15536-57-4

19. Masegosa, A. R., Joho, H., & Jose, J. Identifying Features for Relevance Web Pages Prediction. In *First International Workshop on Adaptive Information Retrieval (AIR)* (p. 36).

20. Abellan, J., Moral, S., Gomez, M., & Masegosa, A. R.Varying parameter in classification based on imprecise probabilities. SMPS 2006. Advances in Soft Computing, 6, pp. 231-239 (2006).

21. Cano A, Castellano J.G, Masegosa, A. R., & Moral, S. (2004).Application of a Selective Gaussian Naïve Bayes Model for Diffuse Large B-Cell Lymphoma classification . In *2nd European Workshop on Probabilistic Graphical Models (PGM 2004)* (pp. 33-40).