## References for the ICGI 2012 tutorial "Learning Probabilistic Finite-State Machines" by J. Castro and R. Gavaldà

## References

- [Abe-Warmuth92] Naoki Abe and Manfred K. Warmuth. On the computational complexity of approximating distributions by probabilistic automata. *Machine Learning*, 9:205–260, 1992.
- [Beimel+00] Amos Beimel, Francesco Bergadano, Nader H. Bshouty, Eyal Kushilevitz, and Stefano Varricchio. Learning functions represented as multiplicity automata. J. ACM, 47(3):506–530, 2000.
- [Balle-Castro-G12] Borja Balle, Jorge Castro, and Ricard Gavaldà. Bootstrapping and learning pdfa in data streams. In 11th Intl. Conf. on Grammatical Inference (ICGI), volume 21 of JMLR Workshop and Conference Proceedings, pages 34–48, 2012.
- [Bailly+09] Raphaël Bailly, François Denis, and Liva Ralaivola. Grammatical inference as a principal component analysis problem. In 26th Annual International Conference on Machine Learning (ICML), page 5. ACM, 2009.
- [Baum+70] L. E. Baum, T. Petrie, G. Soules, and N. Weiss. A maximization technique occurring in the statistical analysis of probabilistic functions of Markov chains. Ann. Math. Statist., 41(1):164–171, 1970.
- [Balle+11] Borja Balle, Ariadna Quattoni, and Xavier Carreras. A spectral learning algorithm for finite state transducers. In Machine Learning and Knowledge Discovery in Databases - European Conference (ECML PKDD), volume 6911 of Lecture Notes in Computer Science, pages 156–171. Springer, 2011.
- [Balle+12] Borja Balle, Ariadna Quattoni, and Xavier Carreras. Local loss optimization in operator models: A new insight into spectral learning. In International Conference on Machine Learning (ICML), 2012.
- [Castro-G08] Jorge Castro and Ricard Gavaldà. Towards feasible PAC-learning of probabilistic deterministic finite automata. In 9th International Colloquium on Grammatical Inference: Algorithms and Applications (ICGI), volume 5278 of Lecture Notes in Computer Science, pages 163–174. Springer, 2008.
- [Carrasco-Oncina94] Rafael C. Carrasco and José Oncina. Learning stochastic regular grammars by means of a state merging method. In

Second International Colloquium on Grammatical Inference and Applications (ICGI), volume 862 of Lecture Notes in Computer Science, pages 139–152. Springer, 1994.

- [Carrasco-Oncina99] Rafael C. Carrasco and José Oncina. Learning deterministic regular grammars from stochastic samples in polynomial time. *ITA*, 33(1):1–20, 1999.
- [Clark-Thollard04] Alexander Clark and Franck Thollard. PAC-learnability of probabilistic deterministic finite state automata. Journal of Machine Learning Research, 5:473–497, 2004.
- [Dupont+05] Pierre Dupont, François Denis, and Yann Esposito. Links between probabilistic automata and hidden Markov models: probability distributions, learning models and induction algorithms. *Pattern Recognition*, 38(9):1349–1371, 2005.
- [Denis-Esposito04] François Denis and Yann Esposito. Learning classes of probabilistic automata. In 17th Annual Conference on Learning Theory (COLT), volume 3120 of Lecture Notes in Computer Science, pages 124–139. Springer, 2004.
- [Denis+06] François Denis, Yann Esposito, and Amaury Habrard. Learning rational stochastic languages. In 19th Annual Conference on Learning Theory (COLT), volume 4005 of Lecture Notes in Computer Science, pages 274–288. Springer, 2006.
- [delaHiguera10] Colin de la Higuera. Grammatical Inference Learning Automata and Grammars. Cambridge University Press, 2010.
- [dlHT00] Colin de la Higuera and Franck Thollard. Identification in the limit with probability one of stochastic deterministic finite automata. In 5th International Colloquium on Grammatical Inference: Algorithms and Applications (ICGI), volume 1891 of Lecture Notes in Computer Science, pages 141–156. Springer, 2000.
- [Guttman+05] Omri Guttman, S. V. N. Vishwanathan, and Robert C. Williamson. Learnability of probabilistic automata via oracles. In 16th International Conference on Algorithmic Learning Theory (ALT), pages 171–182, 2005.
- [Hsu+09] Daniel Hsu, Sham M. Kakade, and Tong Zhang. A spectral algorithm for learning hidden Markov models. In 22nd ACM Conference on Learning Theory (COLT). ACM, 2009.
- [Kermorvant-Dupont02] Christopher Kermorvant and Pierre Dupont. Stochastic grammatical inference with multinomial tests. In 6th International Colloquium on Grammatical Inference: Algorithms and Applications (ICGI), volume 2484 of Lecture Notes in Computer Science, pages 149–160. Springer, 2002.

- [Kearns+94] Michael J. Kearns, Yishay Mansour, Dana Ron, Ronitt Rubinfeld, Robert E. Schapire, and Linda Sellie. On the learnability of discrete distributions. In *Twenty-Sixth Annual ACM Symposium* on Theory of Computing (STOC), pages 273–282. ACM, 1994.
- [Luque+12] Franco M. Luque, Ariadna Quattoni, Borja Balle, and Xavier Carreras. Spectral learning for non-deterministic dependency parsing. In 13th Conference of the European Chapter of the Association for Computational Linguistics (EACL), pages 409–419. The Association for Computer Linguistics, 2012.
- [Mossel-Roch05] Elchanan Mossel and Sébastien Roch. Learning nonsingular phylogenies and hidden Markov models. In 37th Annual ACM Symposium on Theory of Computing (STOC), pages 366–375. ACM, 2005.
- [Palmer-Goldberg07] Nick Palmer and Paul W. Goldberg. PAC-learnability of probabilistic deterministic finite state automata in terms of variation distance. *Theor. Comput. Sci.*, 387(1):18–31, 2007.
- [Ron+96] Dana Ron, Yoram Singer, and Naftali Tishby. The power of amnesia: Learning probabilistic automata with variable memory length. *Machine Learning*, 25(2-3):117–149, 1996.
- [Rudich85] Steven Rudich. Inferring the structure of a Markov chain from its output. In 26th IEEE Annual Symposium on Foundations of Computer Science (FOCS), pages 321–326, 1985.
- [Shalizi-Shalizi04] Cosma Rohilla Shalizi and Kristina Lisa Shalizi. Blind construction of optimal nonlinear recursive predictors for discrete sequences. In 20th Conference in Uncertainty in Artificial Intelligence (UAI), pages 504–511, 2004.
- [Thollard+00] Franck Thollard, Pierre Dupont, and Colin de la Higuera. Probabilistic dfa inference using Kullback-Leibler divergence and minimality. In Seventeenth International Conference (ICML), pages 975–982. Morgan Kaufmann, 2000.
- [Vidal+05a] Enrique Vidal, Franck Thollard, Colin de la Higuera, Francisco Casacuberta, and Rafael C. Carrasco. Probabilistic finite-state machines - part i. IEEE Trans. Pattern Anal. Mach. Intell., 27(7):1013–1025, 2005.
- [Vidal+05b] Enrique Vidal, Franck Thollard, Colin de la Higuera, Francisco Casacuberta, and Rafael C. Carrasco. Probabilistic finite-state machines - part ii. *IEEE Trans. Pattern Anal. Mach. Intell.*, 27(7):1026–1039, 2005.