Bibliography

R. Auckenthaler, M. Carey, and H. Lloyd-Thomas. Score normalization for text-independent speaker verification systems. *Digital Signal Processing*, 10: 42–54, 2000.

E. Bailly-Baillière, S. Bengio, F. Bimbot, M. Hamouz, J. Kittler, J. Mariéthoz, J. Matas, K. Messer, V. Popovici, F. Porée, B. Ruiz, and J.-P. Thiran. The BANCA database and evaluation protocol. In *4th International Conference on Audio- and Video-Based Biometric Person Authentication, AVBPA*, pages 625–638. Springer-Verlag, 2003.

S. Bengio and J. Mariéthoz. The expected performance curve: a new assessment measure for person authentication. In *Proceedings of Odyssey 2004: The Speaker and Language Recognition Workshop*, 2004.

S. Bengio and J. Mariéthoz. Learning the decision function for speaker verification. In *IEEE International Conference on Acoustic, Speech, and Signal Processing, ICASSP*, Salt Lake, City, USA, 2001. IDIAP-RR 00-40.

S. Bengio and J. Mariéthoz. A statistical significance test for person authentication. In *Proceedings of Odyssey 2004: The Speaker and Language Recognition Workshop*, pages 237–240, 2004.

S. Bengio, C. Marcel, S. Marcel, and J. Mariéthoz. Confidence measures for multimodal identity verification. *Information Fusion*, 3(4):267–276, 2002.

S. Bengio, J. Mariéthoz, and M. Keller. The expected performance curve. In *International Conference on Machine Learning, ICML, Workshop on ROC Analysis in Machine Learning*, 2005.

F. Bimbot, M. Blomberg, L. Boves, G. Chollet, C. Jaboulet, B. Jacob, J. Kharroubi, J. Koolwaaij, J. Lindberg, J. Mariéthoz, C. Mokbel, and H. Mokbel. An overview of the picasso project research activities in speaker verification for telephone applications. In *6th European Conference on Speech Communication and Technology — Eurospeech'99*, volume 5, pages 1963–1966, Budapest, Hungary, september 1999.

F. Bimbot, J.-F. Bonastre, C. Fredouille, G. Gravier, I. Magrin-Chagnolleau, S. Meignier, T. Merlin, J. Ortega-Garcia, D. Petrovsk-Delacrétaz, and D. Reynolds. A tutorial on text-independent speaker verification. *EURASIP Journal on Applied Signal Processing*, 4:430–451, 2004.

C. Bishop. *Neural Networks for Pattern Recognition*. Clarendon Press, Oxford, 1995.

S. Boughorbel, J. P. Tarel, and F. Fleuret. Non-mercer kernel for svm object recognition. In *British Machine Vision Conference*, 2004.

C. J. C. Burges. A tutorial on support vector machines for pattern recognition. *Data Mining and Knowledge Discovery*, 2(2):1–47, 1998.

W.M. Campbell. Generalized linear discriminant sequence kernels for speaker recognition. In *Proc IEEE International Conference on Audio Speech and Signal Processing*, pages 161–164, 2002.

W.M. Campbell, J.P. Campbell, D.A. Reynolds, E. Singer, and P.A. Torres-Carrasquillo. Support vector machines for speaker and language recognition. *Computer Speech and Language*, 2005.

G. Chollet, J.-L. Cochard, A. Constantinescu, C. Jaboulet, and P. Langlais. Swiss french polyphone and polyvar: telephone speech databases to model inter- and intra-speaker variability. IDIAP-RR 01, IDIAP, 1996.

S. Chopra, R. Hadsell, and Y. LeCun. Learning a similarity metric discriminatively, with application to face verification. In *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR)*, 2005.

R. Collobert. *Large Scale Machine Learning*. PhD thesis, Université Paris VI, 28 June 2004.

R. Collobert and S. Bengio. Links between perceptrons, MLPs and SVMs. In *International Conference on Machine Learning, ICML*, 2004.

R. Collobert, S. Bengio, and J. Mariéthoz. Torch: a modular machine learning software library. IDIAP-RR 46, IDIAP, 2002.

A. P. Dempster, N. M. Laird, and D.B. Rubin. Maximum likelihood from incomplete data via the em algorithm. *Journal of the Royal Statistical Society*, 1(39):1–38, 1977.

L. Devroye and L. Gyorfi. *A Probabilistic Theory of Pattern Recognition*. Springer, 20 February 1997.

J. L. Gauvain and C.-H. Lee. Maximum a posteriori estimation for multivariate gaussian mixture observation of markov chains. In *IEEE Transactions on Speech Audio Processing*, volume 2, pages 291–298, April 1994.

Y. Grandvalet, J. Mariéthoz, and S. Bengio. A probabilistic interpretation of svms with an application to unbalanced classification. In *Advances in Neural Information Processing Systems, NIPS 15*, 2005. IDIAP-RR 05-26.

T.S Jaakkola and D. Haussler. Exploiting generative models in discriminative classifiers. *Advances in Neural Information Processing*, 11:487–493, 1998.

T. Joachims. *Learning to Classify Text using Support Vector Machines*. Kluwer Academic Publishers, Dordrecht, NL, 2002.

B. Jurie, F. and Triggs. Creating efficient codebooks for visual recognition. In *Computer Vision, 2005. ICCV 2005. Tenth IEEE International Conference on*, volume 1, pages 604– –610, 17 October 2005.

H. Ketabdar, J. Vepa, S. Bengio, and H. Bourlard. Developing and enhancing posterior based speech recognition systems. In *9th European Conference on Speech Communication and Technology, Eurospeech-Interspeech*, 2005.

J. Koolwaaij. *Automatic Speaker Verification in Telephony: a probabilitic approach*. PrintPartners Ipskamp B.V., Enschede, 2000.

J. Kwok and I. Tsang. Learning with idealized kernels. In *International Conference on Machine Learning, ICML*, 2003.

J. T.-Y. Kwok. Support vector mixture for classification and regression problems. In *14th International Conf. on Pattern Recognition*, 1998.

Kung-Pu Li and J. E. Porter. Normalizations and selection of speech segments for speaker recognition scoring. In *Proceedings of the IEEE ICASSP*, pages 595–597, 1988.

Y. Lin, Y. Lee, and G. Wahba. Support vector machines for classification in non-standard situations. *Machine Learning*, 46:191–202, 2002.

R. P. Lippmann. Neural Network Classifiers Estimate Bayesian a Posteriori Probabilities. *Neural Computation*, 3:461–483, 1992.

M. Liwicki, A. Schlapbach, H. Bunke, S. Bengio, J. Mariéthoz, and J. Richiardi. Writer identification for smart meeting room systems. In *Seventh IAPR Workshop on Document Analysis Systems, DAS*, 2006.

J Lüttin. Evaluation protocol for the the XM2FDB database (lausanne protocol). IDIAP-COM 05, IDIAP, 1998.

I. Magrin-Chagnolleau, G. Gravier, and R. Blouet. Overview of the 2000-2001 ELISA consortium research activities. In *A Speaker Odyssey*, pages 67–72, June 2001.

S. Marcel, J. Mariéthoz, Y. Rodriguez, and F. Cardinaux. Bi-modal face and speech authentication: a biologin demonstration system. In *Workshop on Multimodal User Authentication (MMUA)*, 2006. IDIAP-RR 06-18.

J. Mariéthoz and S. Bengio. A comparative study of adaptation methods for speaker verification. In *International Conference on Spoken Language Processing ICSLP*, pages 581–584, Denver, CO, USA, September 2002. IDIAP-RR 01-34.

J. Mariéthoz and S. Bengio. An alternative to silence removal for text-independent speaker verification. IDIAP-RR 51, IDIAP, Martigny, Switzerland, 2003.

J. Mariéthoz and S. Bengio. A unified framework for score normalization techniques applied to text independent speaker verification. *IEEE Signal Processing Letters, Volume 12*, 12, 2005. IDIAP-RR 04-62.

J. Mariéthoz and S. Bengio. A kernel trick for sequences applied to text-independent speaker verification systems. In *Second Workshop on Multimodal User Authentication, MMUA*, 2006. IDIAP-RR 05-77.

J. Mariéthoz and S. Bengio. A new speech recognition baseline system for numbers 95 version 1.3 based on torch. IDIAP-RR 16, IDIAP, 2004.

J. Mariéthoz and S. Bengio. A kernel trick for sequences applied to text-independent speaker verification systems. IDIAP-RR 77, IDIAP, 2005.

J. Mariéthoz and S. Bengio. Can a professional imitator fool a GMM-based speaker verification system? IDIAP-RR 61, IDIAP, 2005.

J. Mariéthoz, Dominique Genoud, Frédéric Bimbot, and Chafik Mokbel. Client / world model synchronous alignement for speaker verification. In *6th European Conference on Speech Communication and Technology — Eurospeech'99*, Budapest, Hungary, September 1999.

A Martin. Personal communication. http://www.nist.gov/speech/staff/martinal.htm, 2004.

A. Martin and M. Przybocki. The NIST 1999 speaker recognition evaluation - an overview. *Digital Signal Processing*, 10:1–18, 2000.

A. Martin, G. Doddington, T. Kamm, M. Ordowski, and M. Przybocki. The DET curve in assessment of detection task performance. In *Proceedings of Eurospeech'97, Rhodes, Greece*, pages 1895–1898, 1997.

K. Messer, J. Kittler, M. Sadeghi, S. Marcel, C. Marcel, S. Bengio, F. Cardinaux, C. Sanderson, J. Czyz, L. Vandendorpe, S. Srisuk, M. Petrou, W. Kurutach, A. Kadyrov, R. Paredes, B. Kepenekci, F. B. Tek, G. B. Akar, F. Deravi, and N. Mavity. Face verification competition on the XM2VTS database. In *4th International Conference on Audio- and Video-Based Biometric Person Authentication, AVBPA*. Springer-Verlag, 2003.

J. Navratil and Ganesh N. Ramaswamy. The awe and mystery of t-norm. In *Proc. of the European Conference on Speech Communication and Technology*, pages 2009–2012, 2003.

H Paugam-Moisy, A. Elisseeff, and Y. Guermeur. Generalization performance of multiclass discriminant models. In *Int. Joint Conf. on Neural Networks (IJCNN)*, 2000.

J. C. Platt. Probabilities for SV machines. In A. J. Smola, P. L. Bartlett, B. Schölkopf, and D. Schuurmans, editors, *Advances in Large Margin Classifiers*, pages 61–74. MIT Press, 2000.

M. Pontil and A. Verri. Support vector machines for 3-d object recognition. *IEEE Transaction PAMI*, 20:637–646, 1998.

D. A. Reynolds and R. C. Rose. Robust text-independent speaker identification using gaussian mixture speaker models. *IEEE Transactions On Speech and Audio Processing*, 3(1), 1995.

D. A. Reynolds, T. F. Quatieri, and R. B. Dunn. Speaker verification using adapted gaussian mixture models. *Digital Signal Processing*, 10(1–3), 2000.

Y. Rodriguez, F. Cardinaux, S. Bengio, and J. Mariéthoz. Estimating the quality of face localization for face verification. In *IEEE International Conference on Image Processing, ICIP*, 2004.

Y. Rodriguez, F. Cardinaux, S. Bengio, and J. Mariéthoz. Measuring the performance of face localization systems. *Image and Vision Computing*, 24 (8):882–893, 2006.

C. Sanderson, S. Bengio, H. Bourlard, J. Mariéthoz, R. Collobert, M.F. Ben-Zeghiba, F. Cardinaux, and S. Marcel. Speech & face based biometric authentication at idiap. In *International Conference on Multimedia and Expo, ICME*, 2003.

F. Sebastiani. Machine learning in automated text categorization. *ACM Computing Surveys*, 34(1):1–47, 2002.

G. W. Snedecor and W. G. Cochran. *Statistical Methods*. Iowa State University Press, 1989.

A. Solomonoff, C. Quillen, and W.M. Campbell. Channel compensation for svm speaker recognition. In *Proceedings of Odyssey 2004: The Speaker and Language Recognition Workshop*, pages 57–62, 2004.

H. L. Van Trees. *Detection, Estimation and Modulation Theory, vol. 1*. Wiley, New York, 1968.

V. N. Vapnik. *The nature of statistical learning theory*. Springer, second edition, 2000.

P. Verlinde, G. Chollet, and M. Acheroy. Multi-modal identity verification using expert fusion. *Information Fusion*, 1:17–33, 2000.

Vincent Wan and Steve Renals. Speaker verification using sequence discriminant support vector machines. *IEEE Transactions on Speech and Audio Processing*, 13(2):203–210, 2005.

J.L. Wayman. Confidence interval and test size estimation for biometric data. In *Proceedings of the IEEE AutoID Conference*, 1999.

M.H. Zweig and G. Campbell. ROC plots: a fundamental evaluation tool in clinical medicine. *Clinical Chemistry*, 39(4):561–577, 1993.