G. Bologna LIST OF PUBLICATIONS (September 2011)

BOOK CHAPTERS (Referred)

[1] G. Bologna, C. Pellegrini.
Internal knowledge analysis in a feed-Forward neural network. In Neural Networks in Biomedicine, Advanced School of the Italian Biomedical Physics Association, Morasso (edt.), World Scientific, 37-56 (1994).
[2] G. Bologna.
Symbolic rule extraction from the DIMLP neural network. Neural Hybrid Systems, S. Wermter and R. Sun (eds.), Springer Verlag, 240-254 (2000).
[3] A.B. Tickle, F. Maire, G. Bologna, R. Andrews, J. Diederich.
Lessons from past, current issues and future research directions in extracting the knowledge embedded in artificial neural networks. Neural Hybrid Systems, S. Wermter and R. Sun (eds.) Springer Verlag, 226-239 (2000).
[4] B. Deville, G. Bologna, M. Vinckenbosch, T. Pun.
See Color: Seeing colours with an orchestra, D. Lalanne and J. Kohlas, Eds. Lecture Notes In Computer Science, vol. 5440. Springer-Verlag, Berlin, Heidelberg, 2009, 251-279.

JOURNALS (Referred)

[5] G. Bologna, C. Pellegrini.
Three medical examples in neural network rule extraction. Physica Medica Journal, 13 (1), 183-187 (1997).
[6] G. Bologna.
A study on rule extraction from several combined neural networks. International Journal of Neural Systems, 11(3), 247-255 (2001).
[7] G. Bologna.
A model for single and multiple knowledge based networks. Artificial Intelligence in Medicine, 28, 141-163 (2003).
[8] G. Bologna, A-L. Veuthey, C. Yvon, S. Duvaud.
N-terminal myristoylation predictions by ensembles of neural networks. Proteomics, 4 (6), 1626-1632 (2004).
[9] G. Bologna.
Is it worth generating rules from neural network ensembles ? Journal of Applied Logic, 2 (3), 325-348 (2004).
[10] T. Pun, P. Roth, G. Bologna, D. Tzovaras, K. Moustakas.
Image and video processing for visually handicapped people. International EURASIP Journal on Image and Video Processing, 2007, 14 pages.
[11] G. Bologna, B. Deville, M. Vinckenbosch, T. Pun.
Transforming 3D coloured pixels into musical instrument notes for vision substitution applications. International EURASIP Journal on Image and Video Processing (2007), 11 pages.
[12] G. Bologna, B. Deville, T. Pun.
On the use of the auditory pathway to represent image scenes in real-time. Neurocomputing, 72, 839-849, 2009. Electronic publication: 2008, Article DOI: http://dx.doi.org/10.1016/j.neucom.2008.06.020 (2009).
[13] G. Bologna, B. Deville, T. Pun.
Toward local and global perception modules for vision substitution. Neurocomputing, 74(8) 1182-1190, 2011 (electronic publication: http://dx.doi.org/10.1016/j.neucom.2010.07.022).

Non-referred

[14] G. Bologna.
Introduzione ai modelli di reti neurali artificiali più diffusi. Il nuovo Saggiatore, Journal of the Italian Society of Physics (1996).

CONFERENCE PUBLICATIONS (Referred)

[15] R.D. Appel, G. Bologna, D.F. Hochtrasser.
Classification tools for diagnostic rule formation from protein maps. In Proc. of MIE-93 Conf., 40-44 (1993).
[16] J.R. Vargas, G. Bologna, R.D. Appel, C. Pellegrini.
Protein maps classification using neural networks. In Proc. of Swiss Vision'93, Zurich (1993).
[17] J.R. Vargas, G. Bologna, R.D. Appel, D.F. Hochtrasser.
Classification of protein patterns using neural networks: pixel based versus feature based approach. In Proc. of the Conf. of Artificial Intelligence in Medicine in Europe (AIME'93), 455-465 (1993).
[18] E. Bertolucci, R. Mariotti, O. Biadi, P. Caravelli, G. Bologna, M.E Fantacci, M. Mariani.
Two different neural network models for coronary artery disease classification. In Proc. of the XVth Congress of the European Society of Cardiology (Abstract), 23 (1993).
[19] G. Bologna, R.D. Appel, D.F. Hochstrasser.
Automatic classification of 2D PAGE images by MLP neural network (**invited talk**). In Proc. of the Conf. 2D Electrophoresis: From Protein Maps to Genomes, 56-57 (1994).
[20] G. Bologna.
Explanation of MLP classifications. In Proc of the International Workshop on neural network design and analysis (University of Geneva, Switzerland (Abstract), 9-10 Jan 1995).
[21] G. Bologna, C. Pellegrini.
Extraction de règles d'un Reseau PMC a valeurs d'entree continues utilisant des unités a seuil dans la couche cachée. In Proc. of the Conf. of Huitiemes Journees Neuro-Sciences et Sciences de l'Ingenieur (NSI'96), 199-204 (1996).
[22] G. Bologna.
Rule extraction from the IMLP neural network: a comparative study. In Proc. of the Workshop on Rule Extraction from Trained Artificial Neural Networks at the Neural Information Processing System Conf. (NIPS'96), 13-19, (1996).
[23] G. Bologna, A. Rida, C. Pellegrini.
Intelligent assistance for coronary heart disease diagnosis: a comparison study. In Proc. of the Conf. of Artificial Intelligence in Medicine in Europe (AIME'97), 199-210 (1997).
[24] G. Bologna, C. Pellegrini.
Accurate decomposition of standard MLP classification responses into Symbolic rules. In Proc. of the International Work-Conference of Artificial Neural Networks (IWANN'97), 617-627 (1997).
[25] H. Yasrebi, G. Bologna.
Optimization and evaluation of multi-layer perceptrons performance via 5 pruning techniques. In Proc. of the International Workshop on Neural Networks (HELNET'97) (1997).
[26] G. Bologna, C. Pellegrini.
Rule extraction from the oblique multi layer perceptron. In Proc. of the Australian Conference on Neural Networks (ACNN'98), 260-264 (1998).
[27] G. Bologna, C. Pellegrini.
Symbolic rule extraction from modular transparent boxes. In Proc. of the Conference of Neural Networks and their Applications (NEURAP'98), 393-398 (1998).
[28] G. Bologna, C. Pellegrini.
Constraining the MLP power of expression to facilitate symbolic rule extraction. In Proc. of the International Joint Conference of Neural Networks (IJCNN'98), 146-151 (1998).
[29] P.M. Palagi, D. Walther, G. Bologna, J.R. Vargas, J.C. Sanchez, O. Cremona, D.F. Hochstrasser, R.D. Appel.
2-DE classification using heuristic clustering and neural networks (Abstract). In Proc. of the Conf. 2D Electrophoresis: From Protein Maps to Genomes (1998).
[30] A.B. Tickle, F. Maire, G. Bologna, J. Diederich.
Extracting the knowledge embedded within trained artificial neural networks: defining the agenda. In Proc. of the third International ICSC Symposia on Intelligent Industrial Automation (IIA'99), and Soft Computing (SOCO'99),732-738 (1999).
[31] G. Bologna.
Rule extraction from a multi layer perceptron with staircase activation functions. In Proc. of the International Joint Conference on Neural Networks (IJCNN), (3) 419-424 (2000).

[32] G. Bologna.
A study on rule extraction from neural networks applied to medical databases. In Proc. of the Data Mining, Decision Support, Meta-Learning, and ILP (DDMI) Workshop of the Principles of Knowledge Discovery and Data Mining Conference (PKDD'00) (2000).

[33] G. Bologna.
Rule extraction from linear combinations of DIMLP neural networks. In Proc. of the VIth Brazlian Symposium on Neural Networks (SBRN'00) (2000).

[34] N. Marcos, G. Bologna, A. Azcarraga.
Improving fuzzy expert system rule base through knowledge and data fusion using neural network model. In Proc. of the International Conference on Neural Information Processing (ICONIP'00) (2000).

[35] G. Bologna.
FDIMLP: A new neuro-fuzzy model. In Proc. of the International Joint Conference on Neural Networks (IJCNN'01) (2001).

[36] G. Bologna.
Determining hyper-planes to generate symbolic rules. In Proc. of the International Work Conference on Neural Networks (IWANN'01), 791-798 (2001).

[37] G. Bologna.
On the validation of the DIMLP neural network. In Proc. of the Fifteenth International Florida Artificial Intelligence Research Society Conference (FLAIRS'02), 264-266 (2002).

[38] G, Bologna, A-L. Veuthey, R.D. Appel.
N-terminal myristoylation predictions by neural network ensembles (Abstract). In Proc. of From Genome to Proteome: Functional Proteomics, Siena, 151-152, September 2-5, 2002.

[39] G. Bologna, R.D. Appel.
A comparison study on protein fold recognition. In Proc. of the International Conference on Neural Information Processing (ICONIP'02), 18-22 November, Singapore (2002).

[40] G. Bologna.
Rule extraction from bagged neural networks. In Proc. of the Conference on Hybrid Intelligent Systems (HIS'02), December 1-4, Santiago (2002).

[41] G. Bologna, C. Pellegrini.
Recognizing images from ICA filters and neural network ensembles with rule extraction. In Proc. of 7th International Work-Conference on Artificial and Natural Neural Networks, IWANN 2003 Mao, Menorca, Spain, June 3-6, 2003, LNCS 2687, 544-550 (2003).

[42] P.-A. Binz, G. Bologna, S. Gay, C. Hernandez, C. Hoogland, K. Mostaguir, M. Tuloup, R.D. Appel.
Bioinformatics tools in proteomics: issues and perspectives. Functional Genomics and Disease, ESF Workshop, Prague, CZ, May 14-17, 2003 (Abstract).

[43] P.-A. Binz, G. Bologna, S. Gay, C. Hernandez, M. Tuloup, P. Hernandez, R.D Appel.
Identification and characterization of proteins using mass spectrometry: what tools, what challenges? IBC congress Basel, 1st July 2003 (Abstract).

[44] G. Bologna, M. Vinckenbosch.
Eye Tracking in coloured image scenes represented by Ambisonic fields of musical instrument sounds. International Work-Conference on the Interplay between Natural and Artificial Computation (IWINAC), (1) 327-333, Las Palmas, Spain, June 2005.

[45] G. Bologna, B. Deville, M. Vinckenbosch, T. Pun.
Touching colour when being visually impaired. Similar NOE Workshop, Heraklion June 8-9 2006 (Abstract).

[46] B. Deville, G. Bologna, M. Vinckenbosch, T. Pun.
Guiding the focus of attention of blind people using saliency. Similar NOE Workshop, June 4-5, 2007, University of Magdeburg, Germany (Abstract).

[47] G. Bologna, B. Deville, M. Vinckenbosch, T. Pun.
Identifying major components of pictures by audio encoding of colours. International Work-Conference on the Interplay between Natural and Artificial Computation (IWINAC), (2) 81-89, 2007.

[48] G. Bologna, M. Boretti, P. Albuquerque.
Filtering documents with an hybrid neural network model. International Work-Conference on the Interplay between Natural and Artificial Computation (IWINAC), (1) 261-269, 2007.

[49] G. Bologna, B. Deville, M. Vinckenbosch, T. Pun.
A Perceptual interface for vision substitution in a color matching experiment. Accepted to IEEE IJCNN, Int. Joint Conf. Neural Networks, Part of IEEE World Congress on Computational Intelligence, June 1-6, 2008, Hong Kong.

[50] B. Deville, G. Bologna, M. Vinckenbosch, T. Pun.
Depth-based detection of salient moving objects in sonified videos for blind users. VISAPP 2008, Int. Conf. on Computer Vision Theory and Applications, 22-25 January, 2008, Funchal, Madeira Island, Portugal.

[51] G. Bologna, B. Deville, T. Pun.
Pairing colored socks and following a red serpentine with sounds of musical instruments. Proc. of ICAD 08, Int. Conf. on Auditory Displays, June 24-27, Paris, France, 2008.

[52] B. Deville, G. Bologna, M. Vinckenbosch, T. Pun.
Guiding the focus of attention of blind people with visual saliency. Computer Vision Applications for the Visually Impaired (CVAVI) October 2008, Marseille, France.

[53] G. Bologna, S. Malandain, B. Deville, T. Pun.
The multi-touch See ColOr interface, ICTA 2009, The 2nd Int. Conf. on Information and Communication Technologies and Accessibility, May 7-9, 2009, Hammamet, Tunisia.

[54] G. Bologna, B. Deville, T. Pun.
Blind navigation along a sinuous path by means of the See ColOr interface. In Proceedings of the 3rd international Work-Conference on the interplay between Natural and Artificial Computation: Part II: Bioinspired Applications in Artificial and Natural Computation (Santiago de Compostela, Spain, June 22 - 26, 2009). J. Mira, J. M. Ferrández, J. R. Álvarez, F. Paz, and F. J. Toledo, Eds. Lecture Notes In Computer Science, vol. 5602. Springer-Verlag, Berlin, Heidelberg.

[55] G. Bologna, B. Deville, T. Pun.
Sonification of color and depth in a mobility aid for blind people. In Proceedings of the 16th international Conference on Auditory Display (Washington DC, 9 - 15, 2010).

[56] J.D. Gomez, G. Bologna, T. Pun.
Color-audio encoding interface for visual substitution : See ColOr matlab-based demo. In Proceedings of the 12th international ACM SIGACCESS conference on computers accessibility (ASSETS'10), October 25-27, 2010, Orlando, Florida, USA.

[57] B. Deville, G. Bologna, T. Pun.
Detecting objects and obstacles for visually impaired individuals using visual saliency. In Proceedings of the 12th international ACM SIGACCESS conference on computers accessibility (ASSETS'10), October 25-27, 2010, Orlando, Florida, USA.

[58] J.D. Gomez, G. Bologna, T. Pun.
Colour-audio encoding interface for visual substitution, Zürich Vision Meeting 2011, April 19, 2011 (Poster).

[59] G. Bologna, A.-L. Veuthey, M. Pagni, L. Lane, A. Bairoch.
A preliminary study on the prediction of human protein functions. In Proc. the 4th work-conference on the interplay between natural and artificail computation., June 2011, La Palma, Spain.

[60] J.D. Gomez, G. Bologna, T. Pun.
Multisource sonification for visual substitution in an auditory memory game : one or two fingers ? In Proc. of the 17th International Conference on auditory display, June 20-23, 2011, Budapest, Hungary.

[61] J.D. Gomez, S. Mohammed, G. Bologna, T. Pun.
Toward 3D scene understanding via audio-description: Kinect-iPad fusion for the visually impaired. Accepted to the 13th international ACM SIGACCESS conference on computers accessibility (ASSETS'11), October 24-26, 2011, Dundee, Scotland.

[62] J.D. Gomez, S. Mohammed, G. Bologna, T. Pun.
Hybrid Kinect and sound-based scene understanding for visually impaired people assistance. Accepted to the AEGIS Workshop and International Conference (Accessibility reaching everywhere), 28-30 November 2011, Brussells, Belgium.

[63] J.D. Gomez, S. Mohammed, G. Bologna, T. Pun.
A virtual ceiling mounted depth-camera using orthographic kinect. Accepted to the 13th International Conference on Computer Vision (demo paper), Barcelona, Spain 6-13 November 2011.

THESIS

[64] G. Bologna.
DYSTAL: Un nouveau modèle de réseau de neurones artificiels (translation: DYSTAL: A new artificial neural network model). Master Thesis, University of Geneva (Switzerland), november 1991.

[65] G. Bologna.
IMLP: Un modello di rete neurale artificiale per l'estrazione di regole simboliche (translation: IMLP: An artificial neural network model for symbolic rule extraction). Graduation Thesis, University of Turin (Italy), march 1998.

[66] G. Bologna.
Conventional symbolic rule extraction from multi layer perceptrons with discrete and continuous activation functions. PhD Thesis, University of Geneva, Thesis no. 3008, july 1998.