# Curriculum Vitae
# Andrea Torsello

# Contents

# 1 Personal details

*Place and date of birth:*   Monselice (PD), Italy, 18 June 1973

*Codice Fiscale:*   TRSNDR73H18F382G

*Marital status:*   Married

*Address:*   Via A. D'Este 2, 35124 Padova, Italy

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# 2 Education

- 4 July 1997, "laurea" degree (masters level) in "Scienze dell'informazione" at Università Ca' Foscari Venezia in Italy, with a grade of *110/110 e lode* (with honors).

- 7 July 2004,Ph.D. in Computer Science at the University York, UK.

# 3 Current Academic Position

- Currently, I am Associate Professor at Università Ca' Foscari Venezia, at the Department of Environmental Sciences, Informatics, and Statistics.

# 4 Professional Experiences

- October 1996 - March 1997: I developed software to support financial decisions for GRETA consulting srl, Venezia, Italy.

- From 19/8/1998 To 27/10/1999: I worked for Microstrategy, Inc., Tysons Corner, VA, U.S.A. as a software design engineer.

- In 2010 I co-founder of *Digitalviews srl* an academic spinoff participated by Università Ca' Foscari Venezia. Within the company I cover the roles of President of the Board and CEO.

# 5 Research Areas

My research interests are in the fields of Computer Vision and Pattern Recognition. In particular, the main topics include:

- Clustering, perceptual grouping and segmentation;

- Shape and object recognition;

- 3D reconstruction and contactless measurements;

- Game-Theoretic approaches applied to Computer Vision.

- Structural matching and the interplay between stochastic and structural approaches;

- Analysis of networks and structures;

- Quantum approaches to structural analysis;

# 6 Professional Activities

## 6.1 Editorial Activities

- 2014–present: *Editorial Board Member* for the international journal *Pattern Recognition* [IF 3.096].

- 2014–present: *Editorial Board Member* for the international journal *Gate to Computer Vision and Pattern Recognition*.

- 2014–present: *Editorial Board Member* for the international journal *International Scholarly Research Notices* in the area Computer Engineering.

- 2013–presente: *Editorial Board Member* for the international journal *The Scientific World Journal* [IF 1.219 last value 2013] in the area Signal Processing.

- 2012–presente: *Editorial Board Member* for the international journal *Pattern Recognition Letters* [IF 1.551]

- 2011–2013: *Editorial Board Member* for the international journal *ISRN Machine Vision* (now merged in *Gate to Computer Vision and Pattern Recognition*).

- *Guest Editor*, for the international journal *Pattern Recognition*, vol. 39, no. 10, April 2006. Special issue on "Similarity-Based Pattern Recognition".

- *Guest Editor*, for the international journal *Computer Vision and Image Understanding*. Special issue on "Graph-based Representations in Pattern Recognition", vol. 115, no. 7, July 2011.

- *Guest Editor*, for the international journal *Pattern Recognition Letters*. Special issue on "Graph-based Representations in Pattern Recognition", vol. 33, no. 15, November 2012.

## 6.2   General Chair of International Conferences, Workshops, and doctoral schools

- 7th IAPR TC-15 Workshop on Graph-based Representations in Pattern Recognition – GbR2009, May 26–28, Venezia, Italy.

- 8th IAPR TC-15 Workshop on Graph-based Representations in Pattern Recognition – GbR2011. May 18–20, 2011, Münster, Germany.

- International Summer School on Complex Networks – ISSCN, luglio, 14–18, 2014, Bertinoro (FC), Italia.

- 2nd Workshop on Function Prediction in Complex Networks – FPCN, luglio 19–20, 2014, Bertinoro (FC), Italia.

## 6.3   Area Chair of International Conferences

- 23rd Internationa Conference on Pattern Recognition – ICPR 2016, 4–8 Dec, Cancun Mexico (Track 1: Pattern Recognition and Machine Learning, Track 5: Biomedical Image Analysis and Applications)

- 27th British Machine Vision Conference – BMVC 2016, 19-22 Sep, York, UK

## 6.4 Organization of International Conferences and Workshops

- Collaborated in the organization of the international workshop "Energy Minimization Methods for Computer Vision and Pattern Recognition" (EMMCVPR'97), May 21–23, 1997, Venezia, Italy.

- Member of the organizing committee of the international workshop "Early Vision: Computational and Biological", 2005, Bertinoro (Forlì), Italy.

- Member of the organizing committee of the international workshop "Foundations of Computer Vision: Light, Space, and Matter", 2007, Bertinoro (Forlì), Italy.

- Chair of the organizing committee of the international workshop "International Workshop on Computer Vision" (IWCV'08), May 27–29, 2008, Venezia, Italy.

## 6.5 Program Committees of Internationa Conferences and Workshops

- ACCV (Asian Conference on Computer Vision) 2016

- AI (Australian Joint Conference on Artificial Intelligence) 2008, 2009, 2010, 2011, 2012, 2016

- CAIP (Int. Conference on Computer Analysis of Images and Patterns) 2009, 2011, 2013, 2015

- CIARP (Iberoamerican Congress on Pattern Recognition) 2009, 2010

- CISIM (International Conference on Information Systems and Industrial Management Applications) 2012, 2013, 2014, 2015, 2016

- CVPR (IEEE Conference on Computer Vision and Pattern Recognition) 2010, 2011, 2012, 2013, 2014, 2015, 2016

- DICTA (Digital Image Computing: Techniques and Applications) 2007, 2008, 2009, 2010

- ECCV (European Conference on Computer Vision) 2006, 2010, 2012, 2014, 2016

- ESANN (European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning) 2011

- GbR (IAPR-TC-15 Workshop on Graph-based Representations in Pattern Recognition) 2007, 2009, 2011, 2013, 2015, 2017

- ICCV (IEEE International Conference on Computer Vision) 2007, 2011, 2013, 2015

- ICIAR (International Conference on Image Analysis and Recognition) 2014, 2016

- ICME (IEEE International Conference on Multimedia and Expo) 2011

- ICML (International Conference on Machine Learning) 2009

- ICMLA (International Conference on Machine Learning and Applications) 2012, 2013, 2014, 2016

- ICPR (International Conference on Pattern Recognition) 2008, 2010, 2012, 2014

- ICPRAM (International Conference on Pattern Recognition Applications and Methods) 2012, 2013, 2014, 2015, 2016, 2017

- ICISP (International Conference on Image and Signal Processing) 2008, 2010, 2012, 2014

- IJCAI (International Joint Conference on Artificial Intelligence) 2013

- ISCIS (International Symposium on Computer and Information Sciences) 2007

- NIPS (Neural Information Processing Systems) 2016

- REACTS (Workshop on Recognition and Action for Scene Understanding) 2011, 2013, 2015

- SIG (International Workshop on Stochastic Image Grammars) 2009

- SIMBAD (International Workshop on Similarity-Based Pattern Analysis and Recogntion) 2011, 2013, 2015

- S+SSPR (Joint International Workshop on Structural and Syntactic Pattern Recognition and International Workshop on Statistical Pattern Recognition) 2010, 2012, 2014, 2016

- VISAPP (International Conference on Computer Vision Theory and Applications) 2017

- VisHCI (HCSNet Workshop on the Use of Vision in HCI) 2006

## 6.6 Referee International Journals

I have been called multiple times to review for the following international journals:

- Artificial Intelligence

- Computer Vision and Image Understanding

- Computational Statistics

- Engineering Applications of Artificial Intelligence

- IEEE Transactions on Image Processing

- IEEE Transactions on Neural Networks

- IEEE Transactions on Pattern Analysis and Machine Intelligence

- IEEE Transactions on System, Man, and Cybernetics

- IEEE Transactions on Multimedia

- IET Computer Vision

- Image and Vision Computing

- International Journal of Computer Vision

- Machine Vision and Applications

- Neural Computating and Applications

- Neural Computation

- Neurocomputing

- Pattern Recognition

- Pattern Recognition Letters

- Sensors

## 6.7 Referee for international projects

I have been consulted as an evaluator for research projects proposals by the following funding agencies:

- Austrian Science Fund (FWF)

- Croatian Science Foundation (HRZZ)

- Swiss National Science Foundation (SNSF)

- Czech Academy of Sciences (CAS), evaluator in Ref. Research exercise 2015

## 6.8 Referee for PhD Thesis

I have been external examiner for the doctoral thesis of the following PhDs:

- 2014: Sejuti Rahman (ANU, Australia)

- 2012: Albert Solé (Universidad "Rovira i Virgili" Tarragona, Spain)

- 2012: Anna Carli (Università di Verona)

- 2011: Alessio Pascucci (Università "La Sapienza" Rome, Italy)

- 2009: Surya Parakash (ANU, Australia)

- 2007: Miguel Angel Lozano (Universidad de Alicante, Spain)

## 6.9 Tutorials

- "Game Theory in Pattern Recognition and Machine Learning" in 20th International Conference on Pattern Recognition. (ICPR 2010).

- "Game Theory in Computer Vision and Pattern Recognition" in 24th IEEE Conference on Computer Vision and Pattern Recognition. (CVPR 2011).

# 7 Roles within the University

- Member of the Board of Studies for the degrees in Computer Science (Informatica) at Università Ca' Foscari Venezia, Italy, for the period 2007–2010. Single board for both undergraduate and graduate studies.

- Vice-president of the Board of Studies for the degrees in Computer Science (Informatica) at Università Ca' Foscari Venezia, Italy for the period 2010–present. Single board for both undergraduate and graduate studies.

- Member of the "Research and Development committee for the Faculty of Science at Università Ca' Foscari di Venezia, Italy, for the period 2007–2010.

- Member of the Research Committee of the Department of Environmental Sciences, Informatics, and Statistics of the Università Ca' Foscari Venezia (2011–2014).

- Member of the Board of Studies for the PhD in computer science (2009–present)

- Mamber of the "Presidio di qualità" (Quality Evaluation Board) of the Università Ca' Foscari Venezia (2014–present)

# 8 Supervision

## 8.1 PostDoc Supervision

- Andrea Albarelli (2010-2012, Apr-Nov 2013)

- Filippo Bergamasco (2014-2016)

- Arianna Traviglia (Marie Curie Fellow 2015-2017)

- Luca Cosmo (co-supervision 2015-2016)

## 8.2   Supervisor of PhD Students

- Dr. Andrea Albarelli (XXII cycle)
  Graduated with a thesis titled: "A Game-Theoretic Approach to Matching and Robust Inlier Selection".

- Dr. Emanuele Rodolà (XXIV cycle)
  Graduated with a thesis titled: "Sparse and Robust Matching Problem for 3D Shape Analysis"

- Dr. Luca Rossi (XXVI cycle) Graduated with a thesis titled: "Modeling, Classification and Analysis of Graph Structures"

- Dr. Filippo Bergamasco (XXVII cycle) Graduated with a thesis titled: "High-Accuracy Camera Calibration and Scene Acquisition"

- Dr. Luca Cosmo (XXVIII cycle) Graduated with a thesis titled: "3D Acquisition and Analysis with Applications in Interaction and Contactless Measurement"

- Dr. Andrea Gasparetto (XXIX cycle)

- Dr. Michele Schiavinato (XXX cycle)

- Giorgia Minello (XXXI cycle)

- Giampietro Basei (XXXI cycle) (co-tutor)

- Klic Lukas (XXXI cycle) (co-tutor)

# 9   Invited Plenary Talks

- A. Torsello, "Learning Structure from Samples." In The 3rd Student Organizing International Mini-Conference on Information Electronics Systems (SOIM-GCOE2010), Sendai, Japan, 2010.

- A. Torsello, "Model Complexity Issues in Structural Learning." In 1st IEEE Workshop on Information Theory in Computer Vision and Pattern Recognition, Satelite Event of IEEE Int. Conf. on Computer Vision, Barcelona, Spain, 2011.

- A. Torsello "Network Science is Interdisciplinary" Lecture at summer school "Complex Systems: What Does the Brain Have in Common with a Cell or a Crisis?" Alicante, Spain, July 1-2 2015.

# 10 Awards

- 05/2010: "3DPVT 2010 Nvidia Best Student Paper Award" a 5th International Symposium on 3D Data Processing, Visualization and Transmission (3DPVT) per l'articolo Andrea Albarelli, Emanuele Rodolà, Andrea Torsello, "Robust Game-Theoretic Inlier Selection for Bundle Adjustment."

- 01/2011: "Distinguished Alumnus", Department of Computer Science, the University of York, UK.

# 11 Visiting Positions

- *Visiting Scholar* From November 2007 to January 2008 at the Clayton School of Information Technology, Monash University, Australia.

# 12 Research Projects

- *Apprendimento automatico per la genomica strutturale e funzionale*
  **PRIN 2002: Progetto MURST di Interesse Nazionale, anno 2002**(biennio: 2003–2004).
  Participation as payed Post-doctoral fellow.

  Consortium:
  - Università di Siena (M. Gori, coordinator)
  - Università di Pisa (A. Sperduti)
  - Università di Firenze (G. Soda)
  - Università Ca' Foscari di Venezia (M. Pelillo)

- *Metodi basati sulla similarità per la visione artificiale e il riconoscimento delle forme: Teoria, algoritmi, applicazioni*
  **PRIN 2006: Progetto di Ricerca MIUR di Interesse Nazionale**
  (biennio: 2007–2008).
  Participation as key personnel in the coordinating unit.

  Consortium:
  - Università Ca' Foscari Venezia (M. Pelillo, coordinator)
  - Università di Verona (V. Murino)
  - Università di Milano (P. Campadelli)
  - Università di Cagliari (G. Giacinto)

- *SIMBAD – Beyond Features: Similarity-Based Pattern Analysis and Recognition*
  **Progetto FET-OPEN (STREP) 7th Framework Programme**
  (triennio 2008–2010). Participation as key personnel in the coordinating unit.

  Consortium:
  - Università Ca' Foscari di Venezia, Italia (M. Pelillo, coordinator)
  - University of York, Inghilterra (E. R. Hancock)
  - Technische Universiteit Delft, Olanda (R. W. Duin)
  - Insituto Superior Técnico, Portogallo (M. Figueiredo)
  - Università di Verona, Italia (V. Murino)
  - Eidgenössische Technische Hochschule (ETH) Zürich, Svizzera (J. Buhmann)

- *ADAPT – Accessible Data for Accessible Proto-Types in Social Sector*
  **Progetto PON Smart Cities Nazionali D.D. 391/Ric/05-07-2012** Participation as key personnel

  Consortium:
  - Dedalus S.p.A.
  - Business-eTrentino S.r.l.
  - Università degli Studi di Palermo
  - Università Ca' Foscari Venezia
  - Bramasole Società Cooperativa Sociale
  - Guerrato S.p.A.
  - Attiva Formazione Lavoro S.r.l.

- *VEiL - Visualising Engineered Landscapes: an archaeological approach to unlock environmental resilience and sustainability in antiquity* **MARIE SKODOWSKA-CURIE H2020-MSCA-IF-2014 (2015-2017)** Principal investigator and Tutor.

# 13 Networks of Excellence

- Member of **PASCAL 2 Network of Excellence** (http://www.pascal-network.org/)

# 14 Industrial Projects

- *Modellazione, analisi e visualizzazione di dati ambientali* ( **buyer: CORILA (Consorzio Ricerche Laguna) (2004–2007).** Participates as a post-doc.

- *Ricerca su query e classificazione di oggetti per forma* **buyer: Luxottica Spa (2009).**

- *Realizzazione di un sistema di acquisizione di immagini 3D di occhiali* **buyer: Evolvenda Srl (contractor for Luxottica Spa) (2008–2009).**

- *Raddrizzamento foto per uso stereoscopico* **buyer: Cigraph Srl (2009).** Scientific coordinator.

- *Quinte virtuali* **buyer: Cigraph Srl (2009).** Scientific coordinator.

In 2010 I co-funded Digitalviews srl an academic spinoff participated by Università Ca' Foscari Venezia. Within the company I cover the roles of President of the Board and CEO.

In 2009 the entrepreneurial project of the spinoff won the "Progetto IM-PRESA" of the IMPAT consortium (http://www.consorzioimpat.it). this was a competitive call to finance university spinoffs. Our project ranked third at the national scale.

# 15 Publications

## 15.1 PhD Thesis

[1] A. Torsello, "Matching hierarchical structures for shape recognition". Tesi di Ph.D., University of York. Pubblicato come Technical Report YCST-204-02 presso University of York, UK.

## 15.2 Edited Special Issues of International Journals

[2] M. Bicego, V. Murino, M. Pelillo, A. Torsello (Guest Editors), Special Issue on "Similarity-Based Pattern Recognition", *Pattern Recognition*, 39(10), 2006.

[3] E. R. Hancock, A. Torsello, F. Escolano, and L. Brun (Guest Editors), Special issue on "Graph-Based Representations in Computer Vision", *Computer Vision and Image Understanding*, 115(7), 2011.

[4] A. Torsello, X. Jiang, M. Ferrer (Guest Editors), Special issue on "Graph-based representations in pattern recognition", *Pattern Recognition Letters*, 33(15), 2012.

## 15.3 Edited Proceedings of International Journals

[5] A. Torsello, F. Escolano, L. Brun (Eds.), "Graph-Based Representations in Pattern Recognition", *Proc. 7th IAPR-TC-15 International Workshop, GbRPR 2009*, Springer, LNCS 5534, 2009.

[6] X. Jiang, M. Ferrer, A. Torsello (Eds.), "Graph-Based Representations in Pattern Recognition", *Proc. 8th IAPR-TC-15 International Workshop, GbRPR 2011*, Springer, LNCS 6658, 2011.

## 15.4 International Journals

[7] A. Torsello, M. Pelillo, "Continuous-time relaxation labeling processes". *Pattern Recognition*, vol. 33, no. 11, pp. 1897–1908, 2000.

[8] A. Torsello, E. R. Hancock, "Computing approximate tree edit distance using relaxation labeling". *Pattern Recognition Letters*, Elsevier, vol. 24, pp. 1089–1097, 2003.

[9] A. Torsello, E. R. Hancock, "A Skeletal Measure of 2D Shape Similarity", *Computer Vision and Image Understanding*, vol. 95, no. 1, pp 1–29, 2004.

[10] A. Torsello, D. Hidović-Rowe, M. Pelillo, "Polynomial-Time Metrics for Attributed Trees". *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 27, no. 7, pp. 1087–1099, 2005.

[11] A. Torsello, E. R. Hancock, "Correcting Curvature-Density Effects in the Hamilton-Jacobi Skeleton". *IEEE Transactions on Image Processing*, vol. 15, no. 4, pp. 877–891, 2006.

[12] M. Pelillo e A. Torsello, "Payoff-Monotonic Game Dynamics and the Maximum Clique Problem". *Neural Computation*, vol. 18, pp. 1215–1258, 2006.

[13] A. Torsello e E. R. Hancock, "Learning Shape-Classes using a Mixture of Tree-Unions". *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 28, no. 6, pp. 954–967, 2006.

[14] A. Torsello, Antonio Robles-Kelly, E. R. Hancock, "Discovering Shape Classes using Tree Edit-Distance and Pairwise Clustering". *International Journal of Computer Vision*, vol. 72, no. 3, pp. 259–285, 2007.

[15] A. Torsello, E. R. Hancock, "Graph Embedding using Tree Edit-Union". *Pattern Recognition*, vol. 40, no. 5, pp. 1393–1405, 2007.

[16] B. Xiao, A. Torsello, E. R. Hancock, "Tree Clustering via Metric Embedding." *Neurocomputing*, Elsevier, vol.71, no. 10–12, pp. 2029–2036, 2008.

[17] A. Rota Bulò, A. Torsello, M. Pelillo, "A Game-Theoretic Approach to Partial Clique Enumeration." *Image and Vision Computing*, Special Issue on *Graph-Based Representations in Pattern Recognition*, 27(7):911–922, 2009.

[18] A. Albarelli, E. Rodolà, A. Torsello, "Imposing Semi-Local Geometric Constraints for Accurate Correspondences Selection in Structure from Motion: A Game-Theoretic Perspective." *International Journal of Computer Vision*, doi:10.1007/s11263-011-0432-4, 97(1):36–53, 2012.

[19] F. Bergamasco, A. Albarelli, A. Torsello, "A graph-based technique for semi-supervised segmentation of 3D surfaces." *Pattern Recognition Letters*, Special Issue on *Graph-Based Representations in Pattern Recognition*, doi:10.1016/j.patrec.2012.03.015, 33(15):2057–2064, 2012.

[20] E. Rodolà, A. Albarelli, F. Bergamasco, A. Torsello, "A Scale Independent Selection Process for 3D Object Recognition in Cluttered Scenes." *International Journal of Computer Vision*, 102(1–3):129–145, doi:10.1007/s11263-012-0568-x, 2013.

[21] F. Bergamasco, A. Albarelli, A. Torsello, "Pi-Tag: A Fast Image-Space Marker Design Based on Projective Invariants." *Machine Vision and Applications*, doi:10.1007/s00138-012-0469-6, 24(6):1295–1310, 2013.

[22] A. Albarelli, F. Bergamasco, A. Celentano, L. Cosmo, A. Torsello, "Using multiple sensors for reliable markerless identification through supervised learning." *Machine Vision and Applications*, doi:10.1007/s00138-013-0492-2, 24(7):1539–1554, 2013.

[23] A. Torsello, A. Albarelli, E. Rodolà, "Stable and fast techniques for unambiguous compound phase coding." *Image and Vision Computing*, doi:10.1016/j.imavis.2013.02.004, 31(4):341–356, 2013.

[24] L. Rossi, A. Torsello, E. R. Hancock, R. C. Wilson, "Characterizing graph symmetries through quantum Jensen-Shannon divergence." *Physical Review E, Statistical, Nonlinear, and Soft Matter Physics*, doi:10.1103/PhysRevE.88.032806, 88:032806-1–9, 2013.

[25] L. Rossi, A. Torsello, "Coarse-to-fine skeleton extraction for high resolution 3D meshes." *Computer Vision and Image Understanding*, doi:10.1016/j.cviu.2013.10. 118:140–152, 2014.

[26] M. Alvar, A. Torsello, Á. Sánchez Miralles, J. M. Armingol, "Abnormal behavior detection using dominant sets." *Machine Vision and Applications*, doi:10.1007/s00138-014-0615-4, 25(5):1351–1368, 2014.

[27] L. Bai, L. Rossi, A. Torsello, E. R. Hancock, "A Quantum Jensen-Shannon Graph Kernel for Unattributed Graphs." *Pattern Recognition*, doi:10.1016/j.patcog.2014.03.028, 48(2):344–355, 2015.

[28] A. Albarelli, A. Rodolà, A. Torsello, "Fast and accurate surface alignment through an isometry-enforcing game." *Pattern Recognition*, 48(7):2209–2226, 2015.

[29] A. Benetazzo, F. Barbariol, F. Bergamasco, A. Torsello, S. Carniel, M. Sclavo, "Observation of extreme sea waves in a space-time ensemble." *Journal of Physical Oceanography*, 45(9):2261–2275, 2015.

[30] L. Rossi, A. Torsello, E. R. Hancock, "Measuring graph similarity through continuous-time quantum walks and the quantum Jensen-Shannon divergence." *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 91(2):022815, 2015.

[31] E. Rodolà, A. Albarelli, D. Cremers, A. Torsello, "A simple and effective relevance-based point sampling for 3D shapes." *Pattern Recognition Letters*, 59:41–47, 2015.

[32] C. Ye, C. H. Comin, T. K. D. Peron, F. N. Silva, F. A. Rodrigues, L. D. F. Costa, A. Torsello, E. R. Hancock, "Thermodynamic characterization of networks using graph polynomials." *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 92(3):032810, 2015.

[33] L. Rossi, A. Torsello, E. R. Hancock, "Unfolding Kernel embeddings of graphs: Enhancing class separation through manifold learning." *Pattern Recognition*, 48(11):3357–3370, 2015.

[34] A. Albarelli, L. Cosmo, F. Bergamasco, F. Sartoretto, A. Torsello, "Document A 5 degrees of freedom multi-user pointing device for interactive whiteboards." *Pattern Analysis and Applications*, 19(1):237–250, 2016.

[35] A. Benetazzo, F. Barbariol, F. Bergamasco, A. Torsello, S. Carniel, M. Sclavo, "Stereo wave imaging from moving vessels: Practical use and applications." *Coastal Engineering*, 109:114–127, 2016.

[36] E. Rodolà, L. Cosmo, M. M. Bronstein, A. Torsello, D. Cremers, "Partial Functional Correspondence." *Computer Graphics Forum*, in Press, published online 2016.

[37] F. Bergamasco, A. Albarelli, L. Cosmo, E. Rodolà, A. Torsello, "An Accurate and Robust Artificial Marker based on Cyclic Codes." *IEEE Transactions on Pattern Analysis and Machine Intelligence*, doi:10.1109/TPAMI.2016.2519 in Press, published online 2016.

## 15.5   International Conferences

[38] A. Torsello, M. Pelillo, "Continuous-time relaxation labeling processes". In E. R. Hancock and M. Pelillo (Eds.), *Energy Minimization Methods in Computer Vision and Pattern Recognition–EMMCVPR'99*, (Lecture Notes in Computer Science, vol. 1654). Springer-Verlang, Berlin, pp. 253-268, 1999.

[39] A. Torsello, E. R. Hancock, "Computing approximate tree edit distance using relaxation labeling". In *Workshop on Graph Based Representations in Pattern Recognition*, pp. 125-136, 2001.

[40] B. Luo, A. Robles-Kelly, A. Torsello, R. C. Wilson, E. R. Hancock, "Clustering shock trees". In *Workshop on Graph Based Representations in Pattern Recognition*, pp. 217–228, 2001.

[41] A. Torsello, E. R. Hancock, "A skeletal Measure for 2D shape similarity". In C. Arcelli, L.P.Cordella and G. Sanniti di Baja (Eds.), *Visual Form 2001*, (Lecture Notes in Computer Science, vol. 2059). Springer-Verlang, Berlin, 2001.

[42] A. Torsello, E. R. Hancock, "Efficiently computing weighted tree edit distance using relaxation Labeling". In J. Zerubia, A. K. Jain e M. A. T. Figueiredo (Eds.), *Energy Minimization Methods in Computer Vision and Pattern Recognition–EMMCVPR'01*, (Lecture Notes in Computer Science). Springer-Verlang, Berlin, 2001.

[43] B. Luo, A. Robles-Kelly, A. Torsello, R. C. Wilson, E. R. Hancock, "Discovering shape categories by clustering shock trees". In *Computer Analysis of Images and Patterns*, (Lecture Notes in Computer Science, vol. 2124). Springer-Verlang, Berlin, pp 152–160, 2001.

[44] B. Luo, A. Robles-Kelly, A. Torsello, R. C. Wilson, E. R. Hancock, "A probabilistic framework for graph clustering". In *IEEE International Conference on Computer Vision and Pattern Recognition* (CVPR'01), vol. 1, pp. 912–919, 2001.

[45] B. Luo, A. Robles-Kelly, A. Torsello, R. C. Wilson, E. R. Hancock, "Learning shape categories by clustering shock trees". In *IEEE International Conference on Image Processing*, vol. III, pp 672–675, 2001.

[46] A. Torsello, E. R. Hancock, "Matching and embedding through edit-union of trees". In *European Conference on Computer Vision* (ECCV'02), (Lecture Notes in Computer Science, vol. 2352). Springer-Verlang, Berlin, pp. 822-836, 2002.

[47] A. Torsello, E. R. Hancock, "Shape-Space from Tree-Union". In *IEEE International Conference on Pattern Recognition* (ICPR'02) vol. 1, pp. 188–191, 2002.

[48] A. Torsello, E. R. Hancock, "Learning Structural Variations in Shock Trees". In *joint IAPR International Workshops on Syntactical and Structural Pattern Recognition and Statistical Pattern Recognition* (S+SSPR'02), (Lecture Notes in Computer Science, vol. 2396). Springer-Verlang, Berlin, pp. 113-122, 2002.

[49] A. Torsello, E. R. Hancock, "Curvature Correction of the Hamilton-Jacobi Skeleton". In *IEEE International Conference on Computer Vision and Pattern Recognition* (CVPR'03), vol. 1, pp. 828–834, 2003.

[50] A. Torsello, E. R. Hancock, "Tree edit distance from information theory". In *Workshop on Graph Based Representations in Pattern Recognition*, (Lecture Notes in Computer Science 2726. Springer-Verlang, Berlin, pp. 71–83, 2003

[51] A. Torsello, E. R. Hancock, "Learning mixture of tree unions by minimum description length". In *Energy Minimization Methods in Computer Vision and Pattern Recognition–EMMCVPR 2003*, (Lecture Notes in Computer Science, vol. 2683). Springer-Verlang, Berlin, 2003.

[52] A. Torsello, E. R. Hancock, "Curvature dependent skeletonization". In *Scandinavian Conference on Image Analysis*, (Lecture Notes in Computer Science, vol. 2749). Springer-Verlang, Berlin, pp. 200–207, 2003.

[53] A. Torsello, E. R. Hancock, "Graph Clustering with Tree-Unions". In *Computer Analysis of Images and Patterns*, (Lecture Notes in Computer Science, vol. 2756). Springer-Verlang, Berlin, 2003.

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