Tibério S. Caetano - Curriculum Vitae (Links in blue)

Contact Information

Statistical Machine Learning Group, NICTA
7 London Circuit
Canberra, ACT 2601, Australia

Ph: +61 (2) 6267-6329, *Cel:* +61 (4) 0138-8128
Fax: +61 (2) 6267-6230
Tiberio.Caetano@gmail.com
http://tiberiocaetano.com

Personal Information

Born 19 October 1974, married, one child.
Brazilian citizen, Australian Permanent Resident.

Research Interests

Statistical analysis of structured and complex data (graphs, networks). Interest in applications to computer vision, biology, social science, economics, commerce and related fields.

Specific Technical Skills

Experienced in modeling and classification/regression/estimation of complex and structured data, in particular structured probabilistic graphical models (e.g. Bayesian Networks, Markov Random Fields) and Support Vector Machines and related methods (e.g. structured estimation). Expert in Graph Matching algorithms.

Education

Ph.D. Computer Science, *with highest distinction*, "Graphical Models and Point Set Matching"
UFRGS - Brazil (research part at the University of Alberta, Canada). Graduated July 2004.
Entire research work (from start of literature review to thesis defense) was carried out in **16 months**.

B.Sc. Electrical Engineering (with research in Physics)
UFRGS - Brazil, 1997

Honors and Distinctions

- Highest honor, Ph.D. Thesis, UFRGS, 2004
- First journal paper published at 20 years old
- Brazilian National Research Council (CNPq) Graduate Research Fellowship, 2000-2002, 2004
- Brazilian Research Agency CAPES Graduate Research Fellowship, 2003
- Brazilian National Research Council (CNPq) Undergraduate Research Fellowship, 1995-1996

Academic Professional Experience

NICTA, Canberra, Australia

Senior Researcher (Statistical Machine Learning Group) — **July 2008 - current**
Researcher (Statistical Machine Learning Group) — **December 2005 - June 2008**
Post-Doctoral Research Fellow (Computer Vision Group) — **January 2005 - November 2005**

University of Alberta, Edmonton, Canada

Post-Doctoral Research Fellow (Dept. Computing Science) — **August 2004 - December 2004**
Visiting Graduate Student (Dept. Computing Science) — **March 2003 - March 2004**

UFRGS, Porto Alegre, Brazil

Graduate Student (Informatics Institute) — **March 2000 - July 2004**
Research Assistant (Physics Institute) — **December 1993 - December 1996**

Submitted Manuscripts

As of 07 September 2008, 5 manuscripts are under review.

Journal Publications

1. Graph rigidity, cyclic belief propagation and point pattern matching
   J. J. McAuley, T. S. Caetano and M. S. Barbosa
   IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 30, n. 11 (2008), p. 2047-2054.
2. Rich-club phenomenon across complex network hierarchies
   J. J. McAuley, L. da F. Costa and T. S. Caetano
   Applied Physics Letters, 91 (084103), (2007).
3. Graphical models and point pattern matching
   T. S. Caetano, T. Caelli, D. Schuurmans and D. A. C. Barone
   IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 28, n. 10 (2006), p. 1646-1663.
4. Approximating the problem, not the solution: an alternative view of point set matching
   T. S. Caetano and T. Caelli
   Pattern Recognition, 39 (2006), p. 552-561.
5. Graphical models for graph matching: approximate models and optimal algorithms
   T.Caelli and T. Caetano
   Pattern Recognition Letters, Vol. 26 (2005), p. 339-346.
6. Do mixture models in chromaticity space improve skin detection?
   T. S. Caetano, S. D. Olabarriaga and D. A. C. Barone
   Pattern Recognition, Vol. 36, n. 12 (2003), p. 3019-3021.
7. Nonmonotonic maps and related bifurcations in laser accelerators
   T. S. Caetano, F. Couto, G. Corso, R. Pakter, L. Brunnet and F. B. Rizzato
   Chaos, Solitons and Fractals, Vol. 7, n. 2 (1996), p. 165-175.
8. Chaotic dynamics induced by space-charge waves in cyclotron resonance accelerators
   R. Pakter, I. L. Caldas, F. Couto, T. S. Caetano and F. B. Rizzato
   Physical Review E, Vol. 54, n. 4 (1996), p. 4202-4210.
9. Bifurcations leading to stochasticity in a cyclotron-maser system
   R. Pakter, G. Corso, T. S. Caetano, D. Dillenburg and F. B. Rizzato
   Physics of Plasmas, Vol. 1, n. 12 (1994), p. 4099-4104.

Conference Publications

10. Robust Near-Isometric Matching via Structured Learning of Graphical Models
    J. J. McAuley, T. S. Caetano and A. J. Smola
    NIPS 2008. Advances in Neural Information Processing Systems, 2008, to appear.
11. Inferring Differential Leukocyte Activity from Antibody Microarrays Using a Latent Variable Model
    J. W. K. Ho, R. Koundinya, T. S. Caetano, C. G. Dos Remedios and M. A. Charleston
    GIW 2008. 19th International Conference on Genome Informatics.
12. Estimating Labels from Label Proportions
    N. Quadrianto, A. J. Smola, T. S. Caetano and Q. V. Le
    ICML 2008. International Conference on Machine Learning, Helsinki, 2008.
13. Learning graph matching
    T. S. Caetano, L. Cheng, Q. V. Le and A. J. Smola
    ICCV 2007. International Conference on Computer Vision, Rio de Janeiro, 2007.
14. An MRF and Gaussian curvature based shape representation for shape matching
    P. Xiao, N. Barnes, T. S. Caetano and P. Lieby
    CVPR 2007 Workshop: Beyond Multiview Geometry, 2007.
15. Learning high-order MRF priors of color images
    J. McAuley, T. S. Caetano, A. J. Smola and M. O. Franz
    ICML 2006. Proceedings of the International Conference on Machine Learning, Pittsburg, 2006, p. 617-624.

16. A unified formulation of invariant point pattern matching
T. S. Caetano and T. Caelli
ICPR 2006. Proceedings of the International Conference on Pattern Recognition, Hong Kong, 2006.

17. An Embedded Bayesian Network Hidden Markov Model for Digital Forensics
O. Y. de Vel, N. Liu, T. Caelli and T. S. Caetano
ISI 2006. Proceedings of the International Conference on Intelligence and Security Informatics, San Diego, 2006, p. 459-465.

18. Approximating the problem, not the solution: an alternative view of point set matching
T. S. Caetano and T. Caelli
GbRPR 2005. Proceedings of the 5^{th} Workshop on Graph-based Representations in Pattern Recogntition, Poitiers, France, 2004, p. 233-242.

19. Graphical models for graph matching
T. S. Caetano, T. Caelli and D. A. C. Barone
CVPR 2004. Proceedings of the IEEE International Conference on Computer Vision and Pattern Recognition, Washington DC, 2004, v. 2, p. 466-473.

20. An optimal probabilistic graphical model for point set matching
T. S. Caetano, T. Caelli and D. A. C. Barone
SSPR 2004. Proceedings of the 10^{th} International Workshop on Syntactic and Structural Pattern Recognition, Lisbon, Portugal, p. 162-170.

21. A comparison of Junction Tree and Relaxation Algorithms for point matching using different distance metrics
T. S. Caetano, T. Caelli and D. A. C. Barone
ICPR 2004. Proceedings of the IEEE International Conference on Pattern Recognition, Cambridge, UK, 2004, v. 2, p. 124-127.

22. Performance evaluation of single and multiple-gaussian models for skin color modeling
T. S. Caetano, S. D. Olabarriaga and D. A. C. Barone
SIBGRAPI 2002. Proceedings of the Brazilian Symposium on Computer Graphics and Image Processing, Fortaleza, Brazil, 2002, p. 275-282.

23. A probabilistic model for the human skin color
T. S. Caetano and D. A. C. Barone
ICIAP 2001. Proceedings of the IEEE International Conference on Image Analysis and Processing, Palermo, Italy, 2001, p. 279-283.

Non-Academic Professional Experience

ADAC Laboratories (Brazilian Branch), São Paulo, Brazil **March, 1997 - March, 2000**
Electronics Engineer.

Particular Strengths

- Ability to see the big picture and ask good questions.
- Mathematical and statistical modeling skills.
- People skills.

Personal Interests

Violin, chess, classical music, science communication, philosophy of mind, consciousness.

References

- Alex Smola, alex@smola.org
Principal Research Scientist, Yahoo! Research

- Terry Caelli, terry.caelli@gmail.com
Distinguished Researcher, NICTA

- Dale Schuurmans, dale@cs.ualberta.ca
Professor, University of Alberta