

# CURRICULUM VITAE ET STUDIORUM DI PIER LUCA LANZI

## MAGGIO 2010

### Dati anagrafici

Nato a Torino il 27 Gennaio 1967

### Recapito

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### Posizioni

2005– Professore di seconda fascia presso il Dipartimento di Elettronica e Informazione, Politecnico di Milano, V Facoltà di Ingegneria.

2001–2005 Ricercatore presso il Dipartimento di Elettronica e Informazione, Politecnico di Milano, V Facoltà di Ingegneria.

1998–2001 Assegnista di Ricerca presso il Dipartimento di Elettronica e Informazione, Politecnico di Milano.

1996–1998 Dottorando in Informatica e Automatica presso il Dipartimento di Elettronica e Informazione, Politecnico di Milano.

### Titoli di studio

Febbraio 1999 Dottorato di Ricerca in Informatica e Automatica presso il Politecnico di Milano con la tesi “Apprendimento per Rinforzo con Tecniche di Computazione Evolutiva”. Relatore Prof. Marco Colombetti.

Marzo 1994 Laurea in Scienze dell’Informazione presso l’Università di Udine con la votazione di 110/110 e lode, discutendo la tesi dal titolo “Computazione Reale Esatta con Algoritmi Lazy”. Relatore Prof. Furio Honsel; Prof. Pietro di Gianantonio.

## Finanziamenti

Luglio 2008	Contratto per lo sviluppo di tecniche di data mining non supervisionato per applicazioni automotive, RDE Company srl, per un totale di 18000 euro (piú Iva).
Giugno 2008	Contratti per lo sviluppo di tecniche di data mining non supervisionato e supervisionato, referente promuovItalia, per un totale di 36000 euro.
Febbraio 2008	Fellowship della “Japan Society for the Promotion of Science”.
Settembre 1999	Progetti Giovani Ricercatori del Politecnico di Milano/MURST con il titolo: “Agenti Intelligenti per Applicazioni di Commercio Elettronico”.
Dicembre 1998	Assegno di ricerca per quattro anni per ricerche sul tema “Agenti (software o fisici) ad apprendimento automatico in ambienti parzialmente sconosciuti o imprevedibili”.
Maggio 1995	Borsa di studio di un anno per lavorare nel gruppo di Intelligenza Artificiale e Data Mining dello CSELT s.p.a. (ora TLab) sotto la supervisione di Marco Richeldi in collaborazione con l’Università di Torino sotto la supervisione del Prof. Attilio Giordana.

## Riconoscimenti

Luglio 2006	Best paper award nella track su <i>Learning Classifier Systems</i> , per l’articolo <i>Classifier prediction based on tile coding</i> scritto con Daniele Loiacono, Stewart W. Wilson e David E. Goldberg, alla conferenza <i>Genetic and evolutionary computation conference (GECCO-2006)</i> .
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## Patenti

- P. L. Lanzi, F. di Giunta, S. Ceri, Method for the determination of pseudo-constraints and their violations in databases, Italian Patent MI2005A 000229, February 2005.

## Soggiorni e inviti

Settembre 1998	Invito al simposio “ <i>Planning with Partially Observable Markov Decision Processes</i> ” della AAAI, Orlando, Florida, Stati Uniti.
Luglio 1998	<i>Visiting researcher</i> presso il <i>Rowland Institute for Science</i> di Boston, Massachusetts, Stati Uniti.

## Interventi invitati presso conferenze internazionali e enti di ricerca

- 2007 Invited talk dal titolo “Evolving Rules to Solve Problems: The Learning Classifier Systems Way” presso la 13th Portuguese Conference in Artificial Intelligence Hotel de Guimares, Portugal, 4 Dicembre 2007.
- 2008 Seminario dal titolo *Evolving Rules to Solve Problems:the XCS Way*, tenuto alla University of Electro-Communication, Chofu, Tokyo, Giappone, il 5 Marzo 2008
- 2008 Seminario dal titolo *Evolving Rules to Solve Problems:the XCS Way*, tenuto al Tokyo Institute of Technology, Tokyo, Giappone, il 3 Marzo 2008
- 2008 Seminario dal titolo *Evolving Rules to Solve Problems:the XCS Way*, tenuto alla Doshisha University, Kyoto, Giappone, il 27 Febbraio 2008
- 2008 Seminario dal titolo *Evolving Rules to Solve Problems:the XCS Way*, tenuto al ATR, Kyoto, Giappone, il 25 Febbraio 2008
- 2007 Seminario dal titolo *Learning Classifier Systems th Computed Prediction cent Developments, and Future Directions*, tenuto alla University of West England, Bristol, il 15 Marzo 2007
- 2006 Seminario dal titolo *Learning Classifier Systems: Introduction, Recent Developments, and Future Directions*, 14 Novembre 2006
- 2003 Seminario dal titolo *Evolving Rules for Decision Making and Knowledge Discovery: A Learning Classifier Systems Perspective*, 6 Maggio 2003. Dipartimento di *General Engineering*, University of Illinois at Urbana-Champaign, Illinois, Stati Uniti.

## Tutorial presso conferenze internazionali

- 2009 Tutorial dal titolo “Introduction to Learning Classifier Systems”, Genetic and Evolutionary Computation Conference (GECCO09), Montréal, Canada.
- 2002 Tutorial sui sistemi a classificatori alla Genetic and Evolutionary Computation Conference (GECCO02), New York, Stati Uniti.
- 2002 Tutorial sui sistemi a classificatori alla Parallel Problem Solving from Nature (PPSN2002), Granada, Spagna.
- 2001 Tutorial sui sistemi a classificatori alla Genetic and Evolutionary Computation Conference (GECCO01), San Francisco, California, Stati Uniti.

## Partecipazione a progetti europei e reti di eccellenza

- dal 2006 **Rete di eccellenza** *ProLearn*, IST (Information Society Technology - contratto numero 507310)
- dal 2006 **Progetto europeo** *HARTES* (holistic approach to real time reconfigurable embedded systems), Integrated Project, contratto 035143
- dal 2001 **Progetto europeo** *consortium on discovering knowledge with Inductive Queries Information Society Technologies Programme* (1998-2002) *Future and Emerging Technologies* arm. no. IST-2000-26469. Coordinatore scientifico Prof. Stefano Ceri.
- dal 2002 Persona di riferimento del Politecnico di Milano per la **rete di eccellenza** *Agentcities.NET* finanziata dalla Comunità Europea all'interno del *Information Society Technologies Programme*.
- dal 2000 Persona di riferimento del Politecnico di Milano per la **rete di eccellenza** *European Network of Excellence in Evolutionary Computing* (EvoNET) finanziata dalla Comunità Europea all'interno del *Information Society Technologies Programme*.

# Pubblicazioni

## Statistiche Bibliometriche

- Editor di 5 libri e 6 proceeding;
- 21 Journal internazionale di cui 7 transactions;
- 13 capitoli di libri;
- 71 refereed international conference papers;
- 2 refereed national conference papers;
- 2 workshop papers
- **h-index: 20**;
- Total citations: around 1200

## Libri internazionali a cura

1. Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson, editors. *Learning Classifier Systems: From Foundations to Applications*, volume 1813 of *Lecture notes in Computer Science*. Springer-Verlag, April 2000.

## Atti di congressi e workshop internazionali a cura

1. Pier Luca Lanzi, editor. *Proceedings of the 2009 IEEE Symposium on Computational Intelligence and Games*, September 2009, ISBN 978-1-4244-4815-9.
2. Tim Kovacs, Xavier Llorà, Keiki Takadama, Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson, editors. *Learning Classifier Systems, International Workshops, IWLCS 2003-2005, Revised Selected Papers*, volume 4399 of *Lecture Notes in Computer Science*. Springer, 2007.
3. Rosa Meo, PierLuca Lanzi, and Mika Klemettinen, editors. *Database Support for Data Mining Applications: Discovering Knowledge with Inductive Queries*, volume 2682 of *Lecture Notes in Computer Science*. Springer-Verlag, 2004.
4. Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson, editors. *Advances in Learning Classifier Systems. Fourth International Workshop, IWLCS 2002, Granada, Spain, USA, September*, volume 2661 of *Lecture Notes in Computer Science*. Springer-Verlag, 2004.
5. Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson, editors. *Advances in Learning Classifier Systems. Fourth International Workshop, IWLCS 2001, San Francisco (CA), USA, July 7-8*, volume 2321 of *Lecture Notes in Computer Science*. Springer-Verlag, 2002.
6. Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson, editors. *Advances in Learning Classifier Systems. Third International Workshop, IWLCS 2000, Paris, France, September 15-16*, volume 1996 of *Lecture Notes in Computer Science*. Springer-Verlag, April 2001.
7. J. Miller, M. Tomassini, P. L. Lanzi, C. Ryan, A. Tettamanzi, and W. B. Langdon, editors. *Genetic Programming, 4th European Conference, (EuroGP 2001)*, volume 2038 of *Lecture Notes in Computer Science*, Lake Como, Italy, April 2001. Springer-Verlag.
8. E.J.W. Boers, J. Gottlieb, P.L. Lanzi, R.E. Smith, S. Cagnoni, E. Hart, G.R. Raidl, and H. Tijink, editors. *Applications of Evolutionary Computing. EvoWorkshops 2001. Como, Italy, April 18-20*, volume 2037 of *Lecture Notes in Computer Science*. Springer-Verlag, April 2001.
9. S. Cagnoni, R. Poli, G.D. Smith, D. Corne, M. Oates, E. Hart, P.L. Lanzi, E.J. Willem, Y. Li, B. Paechter, and Fogarty, editors. *Real-World Applications of Evolutionary Computing. EvoWorkshops 2000. Edinburgh, Scotland, UK, April 17, 2000*, volume 1803 of *Lecture Notes in Computer Science*. Springer-Verlag, April 2000.

10. Kalyanmoy Deb, Riccardo Poli, Wolfgang Banzhaf, Hans-Georg Beyer, Edmund K. Burke, Paul J. Darwen, Dipankar Dasgupta, Dario Floreano, James A. Foster, Mark Harman, Owen Holland, Pier Luca Lanzi, Lee Spector, Andrea Tettamanzi, Dirk Thierens, and Andrew M. Tyrrell, editors. *Genetic and Evolutionary Computation - GECCO 2004, Genetic and Evolutionary Computation Conference, Seattle, WA, USA, June 26-30, 2004, Proceedings, Part I*, volume 3102 of *Lecture Notes in Computer Science*. Springer, 2004.
11. Kalyanmoy Deb, Riccardo Poli, Wolfgang Banzhaf, Hans-Georg Beyer, Edmund K. Burke, Paul J. Darwen, Dipankar Dasgupta, Dario Floreano, James A. Foster, Mark Harman, Owen Holland, Pier Luca Lanzi, Lee Spector, Andrea Tettamanzi, Dirk Thierens, and Andrew M. Tyrrell, editors. *Genetic and Evolutionary Computation - GECCO 2004, Genetic and Evolutionary Computation Conference, Seattle, WA, USA, June 26-30, 2004, Proceedings, Part II*, volume 3103 of *Lecture Notes in Computer Science*. Springer, 2004.

## Riviste internazionali

1. Luigi Cardamone, Daniele Loiacono, and Pier Luca Lanzi. Learning to drive in the open racing car simulator using on-line neuroevolution. *Transactions on Computational Intelligence and AI in Games*, 2010. Accepted.
2. Daniele Loiacono, Pier Luca Lanzi, Julian Togelius, Enrique Onieva, David A. Pelta, Martin V. Butz, Thies D. Lönneker, Luigi Cardamone, Diego Perez, Yago Saez, Mike Preuss, and Jan Quadflieg. The 2009 simulated car racing championship. *Transactions on Computational Intelligence and AI in Games*, 2010. Accepted.
3. A. Orriols-Puig, E. Bernado-Mansilla, D.E. Goldberg, K. Sastry, and Pier Luca Lanzi. Facetwise analysis of xcs for problems with class imbalances. *Evolutionary Computation, IEEE Transactions on*, 13(5):1093–1119, October 2009.
4. Martin Butz and Pier Luca Lanzi. Sequential problems that test generalization in learning classifier systems. *Evolutionary Intelligence*, 2:141–147, December 2009.
5. Martin V. Butz, Pier Luca Lanzi, and Stewart W. Wilson. Function approximation with XCS: Hyperellipsoidal conditions, recursive least squares, and compaction. *IEEE Transactions on Evolutionary Computation*, 12:355–376, June 2008.
6. Pier Luca Lanzi. Learning classifier systems: then and now. *Evolutionary Intelligence*, 1:63–82, March 2008.
7. Stefano Ceri, Cristiana Bolchini, Daniele Braga, Marco Brambilla, Alessandro Campi, Sara Comai, Piero Fraternali, Pier Luca Lanzi, Marco Masseroli, Maristella Matera, Mauro Negri, Giuseppe Pelagatti, Giuseppe Pozzi, Elisa Quintarelli, Fabio A. Schreiber, and Letizia Tanca. Data and web management research at politecnico di milano. *SIGMOD Record*, 36(4):43–48, 2007.
8. Stefano Ceri, Francesco Di Giunta, and Pier Luca Lanzi. Mining constraint violations. *ACM Trans. Database Syst.*, 32(1):6, 2007.
9. Martin V. Butz, David E. Goldberg, Pier Luca Lanzi, and Kumara Sastry. Problem solution sustenance in xcs: Markov chain analysis of niche support distributions and the impact on computational complexity. *Genetic Programming and Evolvable Machines*, 8(1):5–37.
10. Cristiana Bolchini, Paolo Ferrandi, Pier Luca Lanzi, and Fabio Salice. Evolving classifiers on field programmable gate arrays: Migrating xcs to fpgas. *Journal of Systems Architecture*, 52(8–9):516–533, August 2006.
11. Pier Luca Lanzi, Daniele Loiacono, Stewart W. Wilson, and David E. Goldberg. Generalization in the xcsf classifier system: Analysis, improvement, and extension. *Evolutionary Computation Journal*, 15:133–168, 2007.

12. Piero Fraternali, Pier Luca Lanzi, Maristella Matera, and Andrea Maurino. Model-driven web usage analysis for the evaluation of web application quality. *Journal of Web Engineering*, 3(2):124–152, 2004.
13. Martin V. Butz, David E. Goldberg, and Pier Luca Lanzi. Gradient descent methods in learning classifier systems: Improving xcs performance in multistep problems. *IEEE Transaction on Evolutionary Computation*, 9(5):452–473, October 2005.
14. Pietro Di Gianantonio and Pier Luca Lanzi. Lazy algorithms for exact real arithmetic. *Electronic Notes in Theoretical Computer Science*, 104:113–128, 2004.
15. Federico Facca and Pier Luca Lanzi. Mining interesting knowledge from weblogs: A survey. *Journal of Data and Knowledge Engineering*, 53(3):225–241, 2005.
16. Martin V. Butz, Tim Kovacs, Pier Luca Lanzi, and Stewart W. Wilson. Toward a theory of generalization and learning in xcs. *IEEE Transaction on Evolutionary Computation*, 8(1):28–46, February 2004.
17. Pier Luca Lanzi and Alessandro Strada. A statistical analysis of the trading agent competition 2001. *SIGecom Exchanges. Newsletter of the ACM Special Interest Group on E-commerce*, 3(2):1–8, 2002.
18. John H. Holmes, Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson. Learning classifier systems: new models, successful applications. *Information Processing Letters*, 82(1):23–30, 2002.
19. Pier Luca Lanzi. Learning classifier systems from a reinforcement learning perspective. *Soft Computing - A Fusion of Foundations, Methodologies and Applications*, 6(3):162–170, 2002.
20. Pier Luca Lanzi and Stewart W. Wilson. Toward optimal classifier system performance in non-Markov environments. *Evolutionary Computation*, 8(4):393–418, 2000.
21. Pier Luca Lanzi. An Analysis of Generalization in the XCS Classifier System. *Evolutionary Computation Journal*, 7(2):125–149, 1999.

## Capitoli in libri internazionali

1. Daniele Loiacono and Pier Luca Lanzi. Tile coding based on hyperplane tiles. In Girgin et al. editors. *Recent Advances in Reinforcement Learning, 8th European Workshop, EWRL 2008, Villeneuve d'Ascq, France, June 30 - July 3, 2008, Revised and Selected Papers*, volume 5323 of *Lecture Notes in Computer Science*. pages 179–190. Springer, 2008.
2. Pier Luca Lanzi, Luigi Nichetti, Kumara Sastry, Davide Voltini, and David E. Goldberg. Real-coded extended compact genetic algorithm based on mixtures of models. In *Linkage in evolutionary computation*. Springer-Verlag, 2008. in print.
3. Pier Luca Lanzi, Daniele Loiacono, and Matteo Zanini. Evolving classifier ensembles with heterogeneous predictors. In *A Compilation of two exciting workshop years - IW LCS 2006 / 2007. Current advances and future outlooks*. Springer-Verlag, 2008. in print.
4. Pier Luca Lanzi, Stefano Rocca, Kumara Sastry, and Stefania Solari. Analysis of population evolution in classifier systems using symbolic representations. In *A Compilation of two exciting workshop years - IW LCS 2006 / 2007. Current advances and future outlooks*. Springer-Verlag, 2008. in print.
5. Rosa Meo, Pier Luca Lanzi, Maristella Matera, Danilo Careggio, and Roberto Esposito. Employing inductive databases in concrete applications. In Jean-François Boulicaut, Luc De Raedt, and Heikki Mannila, editors, *Constraint-Based Mining and Inductive Databases*, volume 3848 of *LNCS*, pages 295–327. Springer, 2005.
6. Pier Luca Lanzi. Learning classifier systems: A reinforcement learning perspective. In Larry Bull and Tim Kovacs, editors, *Foundations of Learning Classifier Systems*, volume 183 of *Studies in Fuzziness and Soft Computing*, pages 267–284. Springer, 2005.

7. Martin V. Butz, David E. Goldberg, and Pier Luca Lanzi. Computational complexity of the xcs classifier system. In Larry Bull and Tim Kovacs, editors, *Foundations of Learning Classifier Systems*, volume 183 of *Studies in Fuzziness and Soft Computing*, pages 183–126. Springer, 2005.
8. Marco Colombetti and Pier Luca Lanzi. Developing rational agents. In L. Cantoni and V. Di Gesù, editors, *Human and machine perception 3: Thinking, deciding, and acting*, pages 51–66. Kluwer Academic/Plenum Publishers, 2001.
9. Pier Luca Lanzi and Rick L. Riolo. Recent trends in learning classifier systems research. In Ashis Ghosh and Shigeyoshi Tsutsui, editor, *Advances in Evolutionary Computing: Theory and Applications*, pages 955–988, Berlin, 2003. Springer-Verlag.
10. John H. Holland, Lashon B. Booker, Marco Colombetti, Marco Dorigo, David E. Goldberg, Stephanie Forrest, Rick L. Riolo, Robert E. Smith, Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson. What is a Learning Classifier System? In Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson, editors, *Learning Classifier Systems. From Foundations to Applications*, volume 1813 of *LNAI*, pages 3–32, Berlin, 2000. Springer-Verlag.
11. Pier Luca Lanzi and Rick L. Riolo. A Roadmap to the Last Decade of Learning Classifier System Research (from 1989 to 1999). In Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson, editors, *Learning Classifier Systems. From Foundations to Applications*, volume 1813 of *LNAI*, pages 33–62, Berlin, 2000. Springer-Verlag.
12. Tim Kovacs and Pier Luca Lanzi. A Learning Classifier Systems Bibliography. In Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson, editors, *Learning Classifier Systems. From Foundations to Applications*, LNAI, pages 321–347, Berlin, 2000. Springer-Verlag.
13. Tim Kovacs and Pier Luca Lanzi. A bigger learning classifier systems bibliography. In Pier Luca Lanzi, Wolfgang Stolzmann, and Stewart W. Wilson, editors, *Advances in Learning Classifier Systems. Third International Workshop, IW LCS 2000, Paris, France, September 15-16*, volume 1996 of *Lecture notes in Computer Science*, pages 213–249. Springer-Verlag, April 2001.

## Conferenze

1. Daniele Loiacono, Alessandro Prete, Pier Luca Lanzi, and Luigi Cardamone. Learning to overtake in torcs using simple reinforcement learning. In *World Congress on Computational Intelligence. Proceedings of the IEEE Congress on Evolutionary Computation (CEC-2010)*, Barcelona, Spain, July 2010. IEEE. in print.
2. Gerard Howard, Larry Bull, and Pier-Luca Lanzi. A spiking neural representation for xcsf. In *World Congress on Computational Intelligence. Proceedings of the IEEE Congress on Evolutionary Computation (CEC-2010)*. IEEE, July 2010. in print.
3. Pier Luca Lanzi Matteo Miraz and Luciano Baresi. Improving evolutionary testing by means of efficiency enhancement techniques. In *World Congress on Computational Intelligence. Proceedings of the IEEE Congress on Evolutionary Computation (CEC-2010)*. IEEE, July 2010. in print.
4. Luigi Cardamone, Daniele Loiacono, and Pier Luca Lanzi. Applying cooperative coevolution to compete in the 2009 torcs endurance world championship. In *World Congress on Computational Intelligence. Proceedings of the IEEE Congress on Evolutionary Computation (CEC-2010)*. IEEE, July 2010. in print.
5. Cristiana Bolchini, Pier Luca Lanzi, and Antonio Miele. A multi-objective genetic algorithm framework for design space exploration of reliable fpga-based systems. In *World Congress on Computational Intelligence. Proceedings of the IEEE Congress on Evolutionary Computation (CEC-2010)*. IEEE, July 2010. in print.
6. Marco Ceriani, Fabrizio Ferrandi, Pier Luca Lanzi, Donatella Sciuto, and Antonino Tumeo. Multiprocessor systems-on-chip synthesis using multi-objective evolutionary computation. In *GECCO '10: Proceedings of the 12th Annual conference on Genetic and evolutionary computation*, New York, NY, USA, July 2010. ACM. in print.

7. L. Cardamone, D. Loiacono, and P.L. Lanzi. Learning drivers for TORCS through imitation using supervised methods. In *Computational Intelligence and Games, 2009. CIG 2009. IEEE Symposium on*, pages 148–155, sept. 2009.
8. L. Galli, D. Loiacono, and P.L. Lanzi. Learning a context-aware weapon selection policy for unreal tournament iii. In *Computational Intelligence and Games, 2009. CIG 2009. IEEE Symposium on*, pages 310–316, sept. 2009.
9. G. Giarratana, M. Pizzera, M. Masseroli, E. Medico, and P.L. Lanzi. Data mining techniques for the identification of genes with expression levels related to breast cancer prognosis. In *Bioinformatics and BioEngineering, 2009. BIBE '09. Ninth IEEE International Conference on*, pages 295–300, June 2009.
10. Marco Branca, Lorenzo Camerini, Fabrizio Ferrandi, Pier Luca Lanzi, Christian Pilato, Donatella Sciuto, and Antonino Tumeo. Evolutionary algorithms for the mapping of pipelined applications onto heterogeneous embedded systems. In *GECCO '09: Proceedings of the 11th Annual conference on Genetic and evolutionary computation*, pages 1435–1442, New York, NY, USA, 2009. ACM.
11. Luigi Cardamone, Daniele Loiacono, and Pier Luca Lanzi. Evolving competitive car controllers for racing games with neuroevolution. In *GECCO '09: Proceedings of the 11th Annual conference on Genetic and evolutionary computation*, pages 1179–1186, New York, NY, USA, 2009. ACM.
12. Luigi Cardamone, Daniele Loiacono, and Pier-Luca Lanzi. On-line neuroevolution applied to the open racing car simulator. In *Evolutionary Computation, 2009. CEC '09. IEEE Congress on*, pages 2622–2629, May 2009.
13. Filippo Galgani, Yiwen Sun, Pier Luca Lanzi, and Jason Leigh. Automatic analysis of eye tracking data for medical diagnosis. In *CIDM Proceedings of the IEEE Symposium on Computational Intelligence and Data Mining, CIDM 2009, part of the IEEE Symposium Series on Computational Intelligence 2009, Nashville, TN, USA, March 30, 2009 - April 2, 2009*. pages 195–202. IEEE, 2009.
14. Gerard David Howard, Larry Bull, and Pier-Luca Lanzi. Towards continuous actions in continuous space and time using self-adaptive constructivism in neural xcsf. In *GECCO '09: Proceedings of the 11th Annual conference on Genetic and evolutionary computation*, pages 1219–1226, New York, NY, USA, 2009. ACM.
15. Matteo Miraz, Pier Luca Lanzi, and Luciano Baresi. Testful: using a hybrid evolutionary algorithm for testing stateful systems. In *GECCO '09: Proceedings of the 11th Annual conference on Genetic and evolutionary computation*, pages 1947–1948, New York, NY, USA, 2009. ACM.
16. Martin V Butz, Pier Luca Lanzi, Xavier Llorá, and Daniele Loiacono. An analysis of matching in learning classifier systems. In *GECCO '08: Proceedings of the 10th annual conference on Genetic and evolutionary computation*. ACM Press, 12-16 July 2008.
17. Martin V. Butz, Patrick Stalph, and Pier Luca Lanzi. Self-adaptive mutation in xcsf. In *GECCO '08: Proceedings of the 10th annual conference on Genetic and evolutionary computation*. ACM Press, 12-16 July 2008.
18. David Howard, Larry Bull, and Pier Luca Lanzi. Self-adaptive constructivism in neural xcs and xcsf. In *GECCO '08: Proceedings of the 10th annual conference on Genetic and evolutionary computation*. ACM Press, 12-16 July 2008.
19. Pier Luca Lanzi, Daniele Loiacono, and Matteo Zanini. Evolving classifier ensembles with voting predictors. In *IEEE World Congress on Computational Intelligence (WCCI-2008)*, Hong Kong, June 2008.
20. Daniele Loiacono and Pier Luca Lanzi. Computed predictions in binary multistep problems. In *IEEE World Congress on Computational Intelligence (WCCI-2008)*, Hong Kong, June 2008.

21. Christian Pilato, Daniele Loiacono, Fabrizio Ferrandi, Pier Luca Lanzi, and Donatella Sciuto. High-level synthesis with multi-objective genetic algorithm: a comparative encoding analysis. In *IEEE World Congress on Computational Intelligence (WCCI-2008)*, Hong Kong, June 2008.
22. Fabrizio Ferrandi, Pier Luca Lanzi, Gianluca Palermo, Christian Pilato, Donatella Sciuto, and Antonino Tumeo. An evolutionary approach to area-time optimization of fpga designs. In Holger Blume, Georgi Gaydadjiev, C. John Glossner, and Peter M. W. Knijnenburg, editors, *ICSAMOS*, pages 145–152. IEEE, 2007.
23. Christian Pilato, Gianluca Palermo, Antonino Tumeo, Fabrizio Ferrandi, Donatella Sciuto, and Pier Luca Lanzi. Fitness inheritance in evolutionary and multi-objective high-level synthesis. In *Proceedings of the 2007 Congress on Evolutionary Computation (CEC2007)*, Singapore, September 2007. IEEE.
24. Larry Bull, Pier Luca Lanzi, and Toby O’Hara. Anticipation mappings for learning classifier systems. In *Proceedings of the 2007 Congress on Evolutionary Computation (CEC2007)*, Singapore, September 2007. IEEE.
25. Pier Luca Lanzi. An analysis of generalization in xcs with symbolic conditions. In *Proceedings of the 2007 Congress on Evolutionary Computation (CEC2007)*, Singapore, September 2007. IEEE.
26. Daniele Loiacono, Andrea Marelli, and Pier Luca Lanzi. Support vector machines for computing action mappings in learning classifier systems. In *Proceedings of the 2007 Congress on Evolutionary Computation (CEC2007)*, Singapore, September 2007. IEEE.
27. Luca Fossati, Pier Luca Lanzi, Kumara Sastry, David E. Goldberg, and Osvaldo Gomez. A simple real-coded extended compact genetic algorithm. In *Proceedings of the 2007 Congress on Evolutionary Computation (CEC2007)*, pages 342–348, Singapore, September 2007. IEEE.
28. Daniele Loiacono, Andrea Marelli, and Pier Luca Lanzi. Support vector regression for classifier prediction. In Dirk Thierens, Hans-Georg Beyer, Josh Bongard, Jurgen Branke, John Andrew Clark, Dave Cliff, Clare Bates Congdon, Kalyanmoy Deb, Benjamin Doerr, Tim Kovacs, Sanjeev Kumar, Julian F. Miller, Jason Moore, Frank Neumann, Martin Pelikan, Riccardo Poli, Kumara Sastry, Kenneth Owen Stanley, Thomas Stutzle, Richard A Watson, and Ingo Wegener, editors, *GECCO ’07: Proceedings of the 9th annual conference on Genetic and evolutionary computation*, volume 2, pages 1806–1813, London, 7-11 July 2007. ACM Press.
29. Pier Luca Lanzi, Martin V. Butz, and David E. Goldberg. Empirical analysis of generalization and learning in xcs with gradient descent. In Dirk Thierens, Hans-Georg Beyer, Josh Bongard, Jurgen Branke, John Andrew Clark, Dave Cliff, Clare Bates Congdon, Kalyanmoy Deb, Benjamin Doerr, Tim Kovacs, Sanjeev Kumar, Julian F. Miller, Jason Moore, Frank Neumann, Martin Pelikan, Riccardo Poli, Kumara Sastry, Kenneth Owen Stanley, Thomas Stutzle, Richard A Watson, and Ingo Wegener, editors, *GECCO ’07: Proceedings of the 9th annual conference on Genetic and evolutionary computation*, volume 2, pages 1814–1821, London, 7-11 July 2007. ACM Press.
30. Pier Luca Lanzi and Daniele Loiacono. Classifier systems that compute action mappings. In Dirk Thierens, Hans-Georg Beyer, Josh Bongard, Jurgen Branke, John Andrew Clark, Dave Cliff, Clare Bates Congdon, Kalyanmoy Deb, Benjamin Doerr, Tim Kovacs, Sanjeev Kumar, Julian F. Miller, Jason Moore, Frank Neumann, Martin Pelikan, Riccardo Poli, Kumara Sastry, Kenneth Owen Stanley, Thomas Stutzle, Richard A Watson, and Ingo Wegener, editors, *GECCO ’07: Proceedings of the 9th annual conference on Genetic and evolutionary computation*, volume 2, pages 1822–1829, London, 7-11 July 2007. ACM Press.
31. Albert Orriols-Puig, Kumara Sastry, Pier Luca Lanzi, David E. Goldberg, and Ester Bernadó-Mansilla. Modeling selection pressure in xcs for proportionate and tournament selection. In Dirk Thierens, Hans-Georg Beyer, Josh Bongard, Jurgen Branke, John Andrew Clark, Dave Cliff, Clare Bates Congdon, Kalyanmoy Deb, Benjamin Doerr, Tim Kovacs, Sanjeev Kumar, Julian F. Miller, Jason Moore, Frank Neumann, Martin Pelikan, Riccardo Poli, Kumara Sastry, Kenneth Owen Stanley, Thomas Stutzle, Richard A Watson, and Ingo Wegener, editors, *GECCO*

- '07: *Proceedings of the 9th annual conference on Genetic and evolutionary computation*, volume 2, pages 1846–1853, London, 7-11 July 2007. ACM Press.
32. Tiziana Gravagnoli, Fabrizio Ferrandi, Pier Luca Lanzi, and Donatella Sciuto. Automatic test pattern generation with boa. In Thomas Philip Runarsson, Hans-Georg Beyer, Edmund K. Burke, Juan J. Merelo Guervós, L. Darrell Whitley, and Xin Yao, editors, *Parallel Problem Solving from Nature - PPSN IX, 9th International Conference, Reykjavik, Iceland, September 9-13, 2006, Proceedings*, volume 4193 of *Lecture Notes in Computer Science*, pages 423–432. Springer, 2006.
  33. Martin V. Butz, Pier Luca Lanzi, and Stewart W. Wilson. Hyper-ellipsoidal conditions in xcs: rotation, linear approximation, and solution structure. In *GECCO '06: Proceedings of the 8th annual conference on Genetic and evolutionary computation*, pages 1457–1464, New York, NY, USA, 2006. ACM Press.
  34. Pier Luca Lanzi and Stewart W. Wilson. Using convex hulls to represent classifier conditions. In *GECCO '06: Proceedings of the 8th annual conference on Genetic and evolutionary computation*, pages 1481–1488, New York, NY, USA, 2006. ACM Press.
  35. Pier Luca Lanzi and Daniele Loiacono. Standard and averaging reinforcement learning in xcs. In *GECCO '06: Proceedings of the 8th annual conference on Genetic and evolutionary computation*, pages 1489–1496, New York, NY, USA, 2006. ACM Press.
  36. Pier Luca Lanzi, Daniele Loiacono, Stewart W. Wilson, and David E. Goldberg. Classifier prediction based on tile coding. In *GECCO '06: Proceedings of the 8th annual conference on Genetic and evolutionary computation*, pages 1497–1504, New York, NY, USA, 2006. ACM Press.
  37. Pier Luca Lanzi, Daniele Loiacono, Stewart W. Wilson, and David E. Goldberg. Prediction update algorithms for xcsf: Rls, kalman filter, and gain adaptation. In *GECCO '06: Proceedings of the 8th annual conference on Genetic and evolutionary computation*, pages 1505–1512, New York, NY, USA, 2006. ACM Press.
  38. Cristiana Bolchini, Fabrizio Ferrandi, Pier Luca Lanzi, and Fabio Salice. Toward an FPGA Implementation of XCS. In *Proceedings of the IEEE Congress on Evolutionary Computation – CEC-2005*, pages 2053–2060, Edinburgh, UK, September 2005. IEEE.
  39. Pier Luca Lanzi, Daniele Loiacono, Stewart W. Wilson, and David E. Goldberg. Xcs with computed prediction in continuous multistep environments. In *Proceedings of the IEEE Congress on Evolutionary Computation – CEC-2005*, pages 2032–2039, Edinburgh, UK, September 2005. IEEE.
  40. Pier Luca Lanzi, Daniele Loiacono, Stewart W. Wilson, and David E. Goldberg. XCS with computed prediction for the learning of boolean functions. In *Proceedings of the IEEE Congress on Evolutionary Computation – CEC-2005*, pages 588–595, Edinburgh, UK, September 2005. IEEE.
  41. Pier Luca Lanzi, Daniele Loiacono, Stewart W. Wilson, and David E. Goldberg. Xcs with computed prediction in multistep environments. In *Genetic and Evolutionary Computation – GECCO-2005*, pages 1827–1834, Washington DC, USA, 2005. ACM Press.
  42. Pier Luca Lanzi, Daniele Loiacono, Stewart W. Wilson, and David E. Goldberg. Extending XCSF beyond linear approximation. In *Genetic and Evolutionary Computation – GECCO-2005*, pages 1859–1866, Washington DC, USA, 2005. ACM Press.
  43. Martin V. Butz, Pier Luca Lanzi, Xavier Llorà, and David E. Goldberg. Knowledge extraction and problem structure identification in XCS. In Xin Yao, Edmund Burke, Jose A. Lozano, Jim Smith, Juan J. Merelo-Guervós, John A. Bullinaria, Jonathan Rowe, Peter Tiño Ata Kabán, and Hans-Paul Schwefel, editors, *Parallel Problem Solving from Nature - PPSN VIII*, volume 3242 of *LNCS*, pages 1048–1057, Birmingham, UK, 18-22 September 2004. Springer-Verlag.
  44. Piero Fraternali, Pier Luca Lanzi, Maristella Matera, and Andrea Maurino. Exploiting conceptual modeling for web application quality evaluation. In *13th International Conference on the World Wide Web (WWW)*, New York City, New York, USA, May 2004. (Poster).

45. Pier Luca Lanzi, Maristella Matera, and Andrea Maurino. A framework for exploiting conceptual modeling in the evaluation of web application quality. In *Fourth International Conference on Web Engineering, ICWE 2004, Munich (D)*, July 2004.
46. Martin Butz, David G. Goldberg, and Pier Luca Lanzi. Bounding learning time in xcs. In *Genetic and Evolutionary Computation – GECCO-2004*, LNCS, Seattle, WA, USA, 26-30 June 2004. Springer-Verlag.
47. Martin Butz, David G. Goldberg, and Pier Luca Lanzi. Gradient descent methods in learning classifier systems. In *Genetic and Evolutionary Computation – GECCO-2004*, LNCS, Seattle, WA, USA, 26-30 June 2004. Springer-Verlag.
48. Fabrizio Ferrandi, Pier Luca Lanzi, and Donatella Sciuto. System level hardware–software design exploration with xcs. In *Genetic and Evolutionary Computation – GECCO-2004*, LNCS, Seattle, WA, USA, 26-30 June 2004. Springer-Verlag.
49. Pier Luca Lanzi. A Comparison of Relative Accuracy and Raw Accuracy in XCS. In *Proceedings of the 2003 Congress on Evolutionary Computation (CEC 2003)*, pages 1123–1129, Canberra, Australia, 9-12 December 2003. IEEE.
50. Pier Luca Lanzi. XCS with Stack-Based Genetic Programming. In *Proceedings of the 2003 Congress on Evolutionary Computation (CEC 2003)*, pages 1186–1191, Canberra, Australia, 9-12 December 2003. IEEE.
51. Fabrizio Ferrandi, Pier Luca Lanzi, and Donatella Sciuto. Mining Interesting Patterns from Hardware-Software Codesign Data with the Learning Classifier System XCS. In *Proceedings of the 2003 Congress on Evolutionary Computation (CEC 2003)*, pages 1486–1492, Canberra, Australia, 9-12 December 2003. IEEE.
52. Federico Michele Facca and Pier Luca Lanzi. Recent developments in web usage mining research. In *Data Warehousing and Knowledge Discovery, 5th International Conference, DaWaK 2003, Prague, Czech Republic September 3-5, 2003, Proceedings*, Lecture Notes in Computer Science. Springer, 2003.
53. Daniele Braga, Alessandro Campi, Stefano Ceri, Mika Klemettinen, and Pier Luca Lanzi. Discovering interesting information in xml data with association rules. In *Proceedings of the 18th symposium on applied computing (SAC’03)*, Melbourne, Florida (USA), March 9th-12th 2003.
54. Pier Luca Lanzi. Estimating classifier generalization and action’s effect: A minimalist approach. In E. Cantú-Paz, J. A. Foster, K. Deb, D. Davis, R. Roy, U.-M. O’Reilly, H.-G. Beyer, R. Standish, G. Kendall, S. Wilson, M. Harman, J. Wegener, D. Dasgupta, M. A. Potter, A. C. Schultz, K. Dowsland, N. Jonoska, and J. Miller, editors, *Genetic and Evolutionary Computation – GECCO-2003*, volume 2724 of *LNCS*, pages 1894–1905, Chicago, 12-16 July 2003. Springer-Verlag.
55. Pier Luca Lanzi. Using raw accuracy to estimate classifier fitness in XCS. In E. Cantú-Paz, J. A. Foster, K. Deb, D. Davis, R. Roy, U.-M. O’Reilly, H.-G. Beyer, R. Standish, G. Kendall, S. Wilson, M. Harman, J. Wegener, D. Dasgupta, M. A. Potter, A. C. Schultz, K. Dowsland, N. Jonoska, and J. Miller, editors, *Genetic and Evolutionary Computation – GECCO-2003*, volume 2724 of *LNCS*, pages 1922–1923, Chicago, 12-16 July 2003. Springer-Verlag.
56. Daniele Braga, Alessandro Campi, Stefano Ceri, Mika Klemettinen, and Pier Luca Lanzi. A tool for extracting xml association rules. In *Proceedings of the 14<sup>th</sup> IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2002)*, pages 57–64, Crystal City, Virginia, 4-6 November 2002. IEEE.
57. Daniele Braga, Alessandro Campi, Mika Klemettinen, and Pier Luca Lanzi. Mining association rules from xml data. In Yahiko Kambayashi, Werner Winiwarter, and Masatoshi Arikawa, editors, *DaWaK*, volume 2454 of *Lecture Notes in Computer Science*, pages 21–30. Springer, 2002.

58. Martin V. Butz, Tim Kovacs, Pier Luca Lanzi, and Stewart W. Wilson. How xcs evolves accurate classifiers. In Lee Spector, Erik D. Goodman, Annie Wu, W.B. Langdon, Hans-Michael Voigt, Mitsuo Gen, Sandip Sen, Marco Dorigo, Shahram Pezeshk, Max H. Garzon, and Edmund Burke, editors, *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO-2001)*, pages 927–934, San Francisco, CA 94104, USA, 7-11 July 2001. Morgan Kaufmann.
59. Pier Luca Lanzi. Mining interesting knowledge from data with the xcs classifier system. In Lee Spector, Erik D. Goodman, Annie Wu, W.B. Langdon, Hans-Michael Voigt, Mitsuo Gen, Sandip Sen, Marco Dorigo, Shahram Pezeshk, Max H. Garzon, and Edmund Burke, editors, *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO-2001)*, pages 958–965, San Francisco, CA 94104, USA, 7-11 July 2001. Morgan Kaufmann.
60. Pier Luca Lanzi. Adaptive agents with reinforcement learning and internal memory. In *Sixth International Conference on the Simulation of Adaptive Behavior (SAB2000)*, pages 333–342. MIT Press, 2000.
61. Giuseppe Psaila and Pier Luca Lanzi. Hierarchy-based mining of association rules in data warehouses. In *Applied Computing 2000, Proceedings of the 2000 ACM Symposium on Applied Computing (SAC2000)*, volume 1, pages 307–312, Villa Olmo, Como, Italy, March 19-21, 2000.
62. Pier Luca Lanzi and Marco Colombetti. An Extension to the XCS Classifier System for Stochastic Environments. In Wolfgang Banzhaf, Jason Daida, Agoston E. Eiben, Max H. Garzon, Vasant Honavar, Mark Jakiela, and Robert E. Smith, editors, *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO)*, pages 353–360, Orlando (FL), July 1999. Morgan Kaufmann.
63. Pier Luca Lanzi. Extending the Representation of Classifier Conditions Part I: From Binary to Messy Coding. In Wolfgang Banzhaf, Jason Daida, Agoston E. Eiben, Max H. Garzon, Vasant Honavar, Mark Jakiela, and Robert E. Smith, editors, *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO 99)*, pages 337–344, Orlando (FL), July 1999. Morgan Kaufmann.
64. Pier Luca Lanzi and Alessandro Perrucci. Extending the Representation of Classifier Conditions Part II: From Messy Coding to S-Expressions. In Wolfgang Banzhaf, Jason Daida, Agoston E. Eiben, Max H. Garzon, Vasant Honavar, Mark Jakiela, and Robert E. Smith, editors, *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO 99)*, pages 345–352, Orlando (FL), July 1999. Morgan Kaufmann.
65. Pier Luca Lanzi. Generalization in Wilson’s XCS. In A. E. Eiben, Thomas Back, Marc Schoenauer, and Hans-Paul Schwefel, editors, *Parallel Problem Solving from Nature - PPSN V, 5th International Conference, Amsterdam, The Netherlands, September 27-30, 1998, Proceedings*, volume 1498 of *Lecture Notes in Computer Science*. Springer-Verlag, 1998.
66. Pier Luca Lanzi. An analysis of the memory mechanism of XCSM. In John R. Koza, Wolfgang Banzhaf, Kumar Chellapilla, Kalyanmoy Deb, Marco Dorigo, David B. Fogel, Max H. Garzon, David E. Goldberg, Hitoshi Iba, and Rick Riolo, editors, *Genetic Programming 1998: Proceedings of the Third Annual Conference*, pages 643–651, San Francisco, CA, USA, 22-25 July 1998. Morgan Kaufmann.
67. Pier Luca Lanzi. Adding memory to xcs. In *Proceedings of the IEEE World Congress on Computational Intelligence., The 1998 IEEE International Conference on Evolutionary Computation, May 4–9 Anchorage (AL)*, pages 609–614. IEEE Press, 1998.
68. Pier Luca Lanzi. Fast Feature Selection with Genetic Algorithms: A Filter Approach. In *IEEE International Conference on Evolutionary Computation (ICEC97), April 13–16 Indianapolis (IN)*, pages 537–540. IEEE Press, April 1997.
69. Pier Luca Lanzi. A Study on the Generalization Capabilities of XCS. In Thomas Baeck, editor, *Proceedings of the Seventh International Conference on Genetic Algorithms, April 19–23 East Lansing (MI)*, pages 418–425, San Francisco, July 1997. Morgan Kaufmann.

70. Marco Richeldi and Pier Luca Lanzi. Performing effective feature selection by investigating the deep structure of the data. In Evangelos Simoudis, Jiawei Han, and Usama M. Fayyad, editors, *Proceedings of the Second International Conference on Knowledge Discovery and Data Mining (KDD-96)*, pages 379–383, Portland (OR), 1996. AAAI Press.
71. Marco Richeldi and Pier Luca Lanzi. Adhoc: a Tool for Performing Effective Feature Selection. In *Eighth IEEE Conference on Tools with Artificial Intelligence (ICTAI 96)*, pages 102–105. IEEE Press, November 1996.

## Conferenze Nazionali

1. Giuseppe Psaila and Pier Luca Lanzi. Hierarchy exploitation in data warehouses for mining association rules. In *Ottavo Convegno Nazionale su Sistemi Evoluti per Basi di Dati (SEBD 2000). L'Aquila, Italy, June 26-28*, pages 243–256, 2000.
2. Pier Luca Lanzi and Giuseppe Psaila. A Relational Database Mining Framework with Classification and Discretization. In *Atti del Settimo Convegno Nazionale Sistemi Evoluti per Basi di Dati a cura di Elisa Bertino, Silvana Castano, Villa Olmo, 23-25 giugno 1999*, pages 101–115, 1999.

## Workshop Internazionali

1. Daniele Braga, Alessandro Campi, Ernesto Damiani, Pier Luca Lanzi, and Gabriella Pasi. Fxpath: flexible querying of xml documents. In *EUROFUSE Workshop on Information Systems*, Varenna, Italy, September 2002.
2. Marco Richeldi and Pier Luca Lanzi. Improving Genetic Based Feature Selection by Reducing Data Dimensionality. In *International Workshop on Evolutionary Computation*, Bari (Italy), July 1996.

## Tesi di dottorato

- Pier Luca Lanzi Apprendimento per Rinforzo con Tecniche di Computazione Evolutiva *Tesi di Dottorato in Informatica e Automatica* Dipartimento di Elettronica e Informazione. Politecnico di Milano (Febbraio 1999)

## Attività Didattica

### Corsi come docente

A.A. 1998/1999	<b>Professore a contratto</b> per il corso “Laboratorio di Informatica Grafica”. Corso di Laurea in Ingegneria - Politecnico di Milano (Lecco)
A.A. 1999/2000	<b>Professore a contratto</b> per il corso di “Laboratorio Integrato di Informatica”. Corso di Diploma in Ingegneria - Politecnico di Milano (Lecco).
A.A. 1999/2000	<b>Professore a contratto</b> per il corso “Laboratorio di Informatica Grafica (sez. A)”. Corso di Laurea in Ingegneria Politecnico di Milano (Lecco)
A.A. 1999/2000	<b>Professore a contratto</b> per il corso “Laboratorio di Informatica Grafica (sez. B)”. Corso di Laurea in Ingegneria Politecnico di Milano (Lecco)
A.A. 2000/2001	<b>Docente</b> per il corso “Informatica Grafica”. Corso di Laurea in Ingegneria Politecnico di Milano (Lecco)
A.A. 2000/2001	<b>Supplente</b> per il corso “Laboratorio di Informatica Grafica (sez. A)”. Corso di Laurea in Ingegneria Politecnico di Milano (Lecco)
A.A. 2001/2002	<b>Docente</b> per il corso “Informatica Grafica”. Corso di Laurea in Ingegneria Politecnico di Milano (Lecco)
A.A. 2001/2002	<b>Supplente</b> per il corso “Laboratorio di Informatica Grafica (sez. A)”. Corso di Laurea in Ingegneria Politecnico di Milano (Lecco)
A.A. 2002/2003	<b>Docente</b> per il corso “Informatica Grafica”. Corso di Laurea in Ingegneria Politecnico di Milano (Lecco)
A.A. 2002/2003	<b>Supplente</b> per il corso “Laboratorio di Informatica Grafica (sez. A)”. Corso di Laurea in Ingegneria Politecnico di Milano (Lecco)
A.A. 2003/2004	<b>Supplente</b> per il corso “Informatica Grafica”. Corso di Laurea in Ingegneria Politecnico di Milano (Sede di Lecco)
A.A. 2003/2004	<b>Docente</b> per il corso “Informatica 3”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2003/2004	<b>Supplente</b> per il corso “Metodologie per sistemi intelligenti”. Corso di Laurea in Ingegneria Informatica. Politecnico di Milano (Sede di Como)
A.A. 2004/2005	<b>Docente</b> per il corso “Informatica 3”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2004/2005	<b>Supplente</b> per il corso “Tecniche di Apprendimento Automatico per Applicazioni di Data Mining”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2004/2005	<b>Supplente</b> per il corso “Metodologie per sistemi intelligenti”. Corso di Laurea in Ingegneria Informatica. Politecnico di Milano (Sede di Como)
A.A. 2005/2006	<b>Docente</b> per il corso “Informatica 2”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2005/2006	<b>Supplente</b> per il corso “Tecniche di Apprendimento Automatico per Applicazioni di Data Mining”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2006/2007	<b>Docente</b> per il corso “Informatica 3”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2006/2007	<b>Docente</b> per il corso “Laboratorio di Intelligenza Artificiale & Robotica”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2006/2007	<b>Docente</b> per il corso “Machine Learning and Data Mining”. Corso di Laurea in Ingegneria (orientamento in Inglese). Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2007/2008	<b>Docente</b> per il corso “Informatica 3”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2007/2008	<b>Docente</b> per il corso “Laboratorio di Intelligenza Artificiale & Robotica”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2007/2008	<b>Docente</b> per il corso “Data Mining and Text Mining”. Corso di Laurea in Ingegneria (orientamento in Inglese, in collaborazione con la University of Illinois at Chicago). Politecnico di Milano (Sede di Milano Leonardo)

A.A. 2008/2009	assegnato come <b>Supplente</b> per il corso “Algoritmi e Strutture Dati”. Corso di Laurea in Ingegneria Matematica. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2008/2009	assegnato come <b>Docente</b> per il corso “Laboratorio di Intelligenza Artificiale & Robotica”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2008/2009	assegnato come <b>Docente</b> per il corso “Data Mining and Text Mining”. Corso di Laurea in Ingegneria (orientamento in Inglese, in collaborazione con la University of Illinois at Chicago). Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2009/2010	<b>Supplente</b> per il corso “Informatica B [Mod. 2]”. Corso di Laurea in Ingegneria Matematica. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2009/2010	<b>Docente</b> per il corso “Laboratorio di Intelligenza Artificiale & Robotica”. Corso di Laurea in Ingegneria. Politecnico di Milano (Sede di Milano Leonardo)
A.A. 2009/2010	<b>Docente</b> per il corso “Data Mining and Text Mining”. Corso di Laurea in Ingegneria (orientamento in Inglese, in collaborazione con la University of Illinois at Chicago). Politecnico di Milano (Sede di Milano Leonardo)

### Corsi come esercitatore

A.A. 1997/1998	<b>Seminari didattici</b> per il corso di “Fondamenti di Informatica.” Corso di Laurea di Ingegneria - Politecnico di Milano (Cremona)
A.A. 1998/1999	<b>Seminari didattici</b> per il corso di “Fondamenti di Informatica.” Corso di Laurea di Ingegneria - Politecnico di Milano
A.A. 1998/1999	<b>Seminari didattici</b> per il corso di “Ingegneria della Conoscenza e Sistemi Esperti.” Corso di Laurea di Ingegneria - Politecnico di Milano
A.A. 1998/1999	<b>Seminari didattici</b> per il corso di “Fondamenti di Informatica.” Corso di Laurea di Ingegneria - Politecnico di Milano (Cremona)
A.A. 1999/2000	<b>Seminari didattici</b> per il corso di “Ingegneria della Conoscenza e Sistemi Esperti.” Corso di Laurea di Ingegneria Politecnico di Milano
A.A. 2000/2001	<b>Esercitatore</b> per il corso di “Ingegneria della Conoscenza e Sistemi Esperti.” Corso di Laurea di Ingegneria Politecnico di Milano
A.A. 2001/2002	<b>Esercitatore</b> per il corso di “Ingegneria della Conoscenza e Sistemi Esperti.” Corso di Laurea di Ingegneria Politecnico di Milano
A.A. 2002/2003	<b>Esercitatore</b> per il corso di “Ingegneria della Conoscenza e Sistemi Esperti.” Corso di Laurea di Ingegneria Politecnico di Milano

### Altri Corsi

2008	”Sistemi Informatici: Un Rischio per le Imprese”, Corso Avanzato ”Risk Engineering”, CINEAS 2007/2008, 15/03/2008
2006	Intervento su ”Sistemi Informativi per la Sala Operatoria”, Giornata su ”Informatica per la Sicurezza in Sala Operatoria”, 4/04/2006, CINEAS

## Attività Organizzativa

### Comitati editoriali

- 2006- Editore capo (*Editor in Chief*) di SIGEVolution il *newsletter* dello *Special Interest Group* dell'ACM su *Genetic and Evolutionary Computation* (SIGEVO), <http://www.sigevolution.org>. Responsabile per la creazione del newsletter inclusa la veste grafica e l'organizzazione editoriale.
- 2008- *Associate editor* della IEEE Transactions on Computational Intelligence and AI in Games (nomina ricevuta il 4/8/2008)
- 2007- Membro dell'editorial board della rivista Evolutionary Intelligence (Springer-Verlag).
- 2005- *Associate editor* dell'Evolutionary Computation Journal (MIT Press).
- 2003-2004 Membro dell'editorial board dell'Evolutionary Computation Journal (MIT Press).

### Chair di conferenze internazionali

- 2011 *General Chair* "ACM Genetic and Evolutionary Computation Conference 2011", location to be defined.
- 2010 *Publicity Chair* "Genetic and Evolutionary Computation Conference 2010", Portland, Oregon, Luglio 7-11, 2010.
- 2010 *Proceedings Chair* "IEEE Symposium on Computational Intelligence and Games (IEEE CIG-2010)", Copenhagen, Agosto 2010.
- 2009 *General Chair* "IEEE Symposium on Computational Intelligence and Games (IEEE CIG-2009)", Milano, Settembre 7-10, 2009.
- 2009 *Competition chair* della conferenza internazionale "Genetic and Evolutionary Computation Conference 2009", Montréal, Canada, Luglio 8-12, 2009.
- 2004 *Chair* per l'area di ricerca relativa ai sistemi a classificatori della conferenza internazionale "Genetic and Evolutionary Computation Conference 2004", Seattle, Stati Uniti, Giugno 26-30, 2004.
- 2001 Local chair per la "4th European Conference on Genetic Programming" (EuroGP-2001) per gli EvoWorkshop-2001, Aprile 18-20, 2001, Lago di Como, Italia.

### Attività per il Dipartimento e la Sezione d'Informatica

- 2006- Membro della giunta della sezione di informatica.
- 2006- Rappresentante dei professori associati nella giunta di dipartimento.
- 2006- Responsabile per la didattica integrativa (esercitazioni/laboratori/tutor) per il dipartimento (che include le sezioni di automatica, elettronica, informatica e telecomunicazioni).
- 2006- Responsabile del Master in Computer Science in collaborazione fra il Politecnico di Milano e la *University of Illinois at Chicago*.

### Attività come Relatore di Dottorato

- 2007- David Howard, University of West England, UK, correlatore insieme al Prof. Larry Bull.
- 2005-2008 Daniele Loiacono, Politecnico di Milano, Italia.

### **Attività di esaminatore esterno**

- Giugno 2008      Membro della giuria per la tesi di dottorato *Fault Detection in Autonomous Robots* di Anders Lyhne Christensen, supervisionata dal Prof. Marco Dorigo, Universit Libre de Bruxelles Facult des Sciences Appliques.
- Maggio 2002      Esaminatore esterno per la tesi di dottorato di Kim, DaeEun dal titolo *A Quantitative Approach to the Analysis of Memory Requirements for Autonomous Agent Behaviours using Evolutionary Computation*. Institute for Perception, Action and Behaviour, Division of Informatics, University of Edinburgh. Relatore Prof. John Hallam. Membro interno Prof. John Levine.
- Novembre 2001      Esaminatore esterno per la tesi di *Master of Philosophy* di Clyde Meli dal titolo *Use of GA for Pattern Recognition with Application to OCR with possible extension to handwriting recognition*. Fakultà Tax-Xjenza. Università tà Malta. Msida-Malta.

### **Attività di revisore per riviste**

Evolutionary Computation Journal (MIT Press)  
IEEE Transaction on Evolutionary Computation  
IEEE Transaction on Neural Networks

## Comitati di programma di conferenze internazionali

- 2010 IEEE World Congress on Computational Intelligence (CEC-2010). 18-23 Luglio 2010, Barcelona, Spain.
- 2010 Genetic and Evolutionary Computation Conference (GECCO-2010). 7-11 Luglio 2010, Portland, Oregon, USA.
- 2010 The 11th International Conference on Parallel Problem Solving from Nature (PPSN XI), 13-17 Settembre 2008. Dortmund, Germany.
- 2010 The 11th International Workshop on Learning Classifier Systems (IWLCS10). Luglio 2010, Portland, Oregon, USA.
- 2009 IEEE Congress on Evolutionary Computation (CEC-2009). 18-21 Maggio 2009, Trondheim, Norvegia.
- 2009 Genetic and Evolutionary Computation Conference (GECCO-2009). 8-12 Luglio 2009, Montréal, Canada.
- 2009 The 10th International Workshop on Learning Classifier Systems (IWLCS09). Luglio 2009, Montréal, Canada.
- 2008 IEEE World Congress on Computational Intelligence (WCCI-2008). 1-6 Giugno 2008, Hong Kong, Hong Kong.
- 2008 Genetic and Evolutionary Computation Conference (GECCO-2008). 12-16 Luglio 2008, Atlanta, GA, Stati Uniti.
- 2008 The 10th International Conference on Parallel Problem Solving from Nature (PPSN X), 13-17 Settembre 2008. Dortmund, Germany.
- 2008 The 9th International Workshop on Learning Classifier Systems (IWLCS08). Luglio 2008, Atlanta, GA, Stati Uniti.
- 2007 IEEE Congress on Evolutionary Computation (CEC-07). 25-28 Settembre 2007, Singapore.
- 2007 Genetic and Evolutionary Computation Conference (GECCO-2007). 7-11 Luglio 2007, Londra, UK.
- 2007 The 9th International Workshop on Learning Classifier Systems (IWLCS07). Luglio 2007, Londra, UK.
- 2006 IEEE World Congress on Computational Intelligence (WCCI-2006). 16-21 Luglio 2006, Vancouver, Canada.
- 2006 Genetic and Evolutionary Computation Conference (GECCO-2006). 8-12 Luglio 2006, Seattle, WA, Stati Uniti.
- 2006 The 9th International Conference on Parallel Problem Solving from Nature (PPSN IX). 9-13 September 2006. Reykjavik, Iceland.
- 2006 The 8th International Workshop on Learning Classifier Systems (IWLCS06). Luglio 2006, Seattle, WA, Stati Uniti.
- 2005 IEEE Congress on Evolutionary Computation (CECO05). Luglio 2005, Edinburgo, UK.
- 2005 Genetic and Evolutionary Computation Conference (GECCO04). Luglio 2005, Washington, DC, Stati Uniti.
- 2005 The Seventh International Workshop on Learning Classifier Systems (IWLCS05). Luglio 2005, Washington, DC, Stati Uniti.
- 2004 Genetic and Evolutionary Computation Conference (GECCO04). Luglio 2004, Seattle, WA, Stati Uniti.
- 2004 The Eighth International Conference on the Simulation of Adaptive Behavior (SAB'04) 13 - 17 July 2004, Los Angeles, CA, USA.
- 2004 The 8th International Conference on Parallel Problem Solving from Nature (PPSN VIII). 18-22 September 2004. Birmingham, UK.
- 2004 The Sixth International Workshop on Learning Classifier Systems (IWLCS04). Luglio 2004, Seattle, WA, Stati Uniti.
- 2003 Genetic and Evolutionary Computation Conference (GECCO03). Luglio 2003, Chicago, Illinois, Stati Uniti.
- 2003 Workshop internazionale "*Knowledge Discovery in Inductive Databases*" (KDID03). Settembre, 22, 2003, Cavtat-Dubrovnik, Croatia.
- 2002 Workshop internazionale "*Discovery in Inductive Databases*" (KDID02). Agosto 19-20, 2002, Helsinki, Finlandia.
- 2002 Genetic and Evolutionary Computation Conference (GECCO02). Luglio 2002, New York, Stati Uniti.
- 2002 Seventh International Conference on Simulation of Adaptive Behavior. Agosto 4-9, 2002, Edinburgo, UK.
- 2002 Seventh International Conference on Parallel Problem Solving from Nature (PPSN VII). Settembre 7-11, 2002, Granada, Spagna.
- 2001 Genetic and Evolutionary Computation Conference (GECCO01). Luglio

- 2000 Genetic and Evolutionary Computation Conference (GECCO00). Luglio 2000, Las Vegas, Nevada, Stati Uniti.
- 2000 Sixth International Conference on Simulation of Adaptive Behavior. Settembre 11-16, 2000, Parigi, Francia.
- 2000 Sixth International Conference on Parallel Problem Solving from Nature (PPSN VI). Settembre 16-20, 2000, Parigi, Francia.
- 1999 Genetic and Evolutionary Computation Conference (GECCO99), Orlando, Florida, Stati Uniti.
- 1998 Third Conference on Genetic Programming (GP98). Luglio 1998, Madison, Wisconsin, Stati Uniti.

### **Comitati organizzatori**

- 2003 Comitato organizzatore del sesto workshop su sistemi a classificatori (IWLCS03). Luglio 2003, Chicago, Illinois, Stati Uniti.
- 2002 Comitato organizzatore del workshop internazionale “*Discovery in Inductive Databases*” (KDID02). Agosto 19-20, 2002, Helsinki, Finlandia.
- 2002 Comitato organizzatore del workshop internazionale “*Database Technologies for Data Mining*” (DTDM02). Marzo 24, 2002, Praga, Repubblica Ceca.
- 2002 Comitato organizzatore del quinto workshop su sistemi a classificatori (IWLCS02). Settembre 2002, Granada, Spagna.
- 2001 Comitato organizzatore della “*4th European Conference on Genetic Programming*”. Aprile 18-20, 2001, Lago di Como, Italia.
- 2001 Comitato organizzatore del quarto workshop su sistemi a classificatori (IWLCS01). Luglio 2001, San Francisco, California (Stati Uniti).
- 2000 Comitato organizzatore del terzo workshop su sistemi a classificatori (IWLCS00). Settembre 2000, Parigi, Francia.
- 2000 Comitato organizzatore del Convegno Nazionale della Associazione Italiana di Intelligenza Artificiale (AIIA). Settembre 2000, Milano, Italia.
- 2000 Comitato organizzatore del terzo workshop su robotica evolutiva (EvoRob 2000). Aprile 2000, Edinburgo, Scozia.
- 1999 Comitato organizzatore del secondo workshop internazionale sui sistemi a classificatori (IWLCS99). Luglio 1999, Orlando, Florida (Stati Uniti).

**Milano, 13 Agosto 2008**

**Pier Luca Lanzi**