

Roberto Posenato

Curriculum Vitae

Assistant Professor
Dipartimento di Informatica
Università degli Studi di Verona
strada le grazie 15 – 37134 Verona Italy
☎ +39 045 802 7967
✉ roberto.posenato@univr.it
🌐 www.di.univr.it/~posenato
Last update: November 26, 2018

Education

- Nov 1992–Oct 1995 **PhD in Computational Maths and Operations Research**, *Università degli Studi di Milano*, Italy.
Original title: Dottorato di Ricerca in Matematica computazionale e Ricerca Operativa. VII edition, supported by a 3-year State Scholarship.
- Feb 1991 **MSc in Computer Science (highest honours)**, *Università degli Studi di Milano*, Italy.
Original title: Laurea in Scienze dell'Informazione.

Professional Experience

- Sep 2018–Dec 2019 **“Impresa 4.0 e Digital Transformation per le MPMI di Verona” Project**, *Università degli Studi di Verona and Camera di Commercio I.A.A. di Verona*, Italy.
Scientific Supervisor.
- Since Mar 2018 **Chairman of the board of directors**, *MedBrains s.r.l.i. (Università degli Studi di Verona spin-off)*, Italy.
- Since Nov 2000 **Assistant Professor in Computer Science**, *Università degli Studi di Verona*, Italy.
- Gen 2002–Jun 2011 **“WebIntegrato” Project**, *Università degli Studi di Verona*, Italy.
Senior consultant and Researcher.
- Aug 1998–Oct 2000 **Computer Labs Manager (permanent staff, VIII level)**, *Università degli Studi di Verona*, Italy.
- May 1997–May 1999 **Post-doctoral Fellowship Facoltà di Scienze MMFFNN**, *Università degli Studi di Verona*, Italy.
- Jan 1996–Dec 1996 **IT Consultant**, *Facoltà di Economia, Università degli Studi di Verona*, Italy.

Honours, Awards, Rewards and Grants

- March 2018 **National Scientific Qualification**, *Italian Ministry of Education, Universities and Research (MIUR)*, Italy.
Associate Professor Qualification in INF01/B1 scientific field (Computer Science)
- November 2017 **Finanziamento delle attività base di ricerca (FFBAR 2017)**, *Italian Ministry of Education, Universities and Research (MIUR)*, Italy.
Grant for the research activity.
- April 2017 **National Scientific Qualification**, *Italian Ministry of Education, Universities and Research (MIUR)*, Italy.
Associate Professor Qualification in ING09/H1 scientific field (Computer Science Engineering)
- May 2015 **CooperInt Grant**, *Università degli Studi di Verona*, Italy.
Grant for the development of a research collaboration in USA.

- Nov 2014 **Professional Reward**, *Università degli Studi di Verona*, Italy.
For the professional achievements during 2010-2012 period.
- Sep 2014 **IEEE Appreciation**, *IEEE International Conference on Healthcare Informatics 2014 (ICHI 2014)*, Italy.
Local Arrangements Chair.
- Apr 2014 **CooperInt Grant**, *Università degli Studi di Verona*, Italy.
Grant for the development of a research collaboration in USA.
- 2004,'06,'09,'11-'14 **Teaching Reward**, *Università degli Studi di Verona*, Italy.
- Nov 2004–Nov 2006 **Research Reward**, *Università degli Studi di Verona*, Italy.
For the successful application to PRIN 2004 grant, in addition to regular matching funds.
- May 2005 **Möbius Multimedia Lugano International Award**, *Città di Lugano and RSI*, Lugano, Switzerland.
As project architect and analyst of the best Italian University Web Site, <http://www.moebiuslugano.ch>.
- Nov 2004–Nov 2006 **PRIN Grant**, *Ministero dell'Istruzione Università e Ricerca (MIUR)*, Italy.
Local Coordinator. Grant of “Programma di Ricerca scientifica di rilevante Interesse Nazionale” (PRIN) for the project “Supporto di granularità multiple e definite dall’utente nella gestione ed interrogazione di informazioni cliniche caratterizzate temporalmente”, project #2004094558_003.
- Nov 2003–Nov 2005 **PRIN Grant**, *Ministero dell'Istruzione Università e Ricerca (MIUR)*, Italy.
Researcher. Grant of “Programma di Ricerca scientifica di rilevante Interesse Nazionale” (PRIN) for the project “Rappresentazione e interrogazione via Web di informazione geografica eterogenea in formato vettoriale e raster caratterizzata da aspetti temporali”, project # 2003018941_006.
- Oct 1992–Oct 1993 **Research Fellowship**, *CNR*, Milano, Italy.
Research Fellowship “Progetto Finalizzato Sistemi Informatici e Calcolo Parallelo”.

Research Activities

Research Interests

- Study of the computational aspects of consistency and controllability properties of temporal constraint networks [35, 34, 33, 31, 30, 29, 26, 28, 27, 53, 25, 52, 24, 3, 22, 23, 21, 2, 17, 18, 49, 16, 50, 51, 13, 14].
- Definition and analysis of a new conceptual model of workflow that allows the representation of temporal aspects of a workflow such as, for example, deadlines, intertask temporal constraints, minimum and maximal task durations, temporal resource allocation or authorizations [36, 32, 5, 4, 22, 20, 19, 1, 12, 15].
- Studies on computational complexity correlation between neural networks and Ising spin glasses [9] and computational complexity of neuronal fiber-tracking problem [6].
- Studies on how the most used page rank (Google original *pagerank*) can be biased [37].
- Studies on how to model and represent data in different languages (internationalization) in data-intensive web applications [39].
- Computational complexity characterization of a graphical query language for the WWW [41].
- Computational complexity characterization of some optimization discrete problems solved in approximate way by some neural network computational models [56, 10, 11].
- Implementation of neural network models as neural circuits [43, 45, 40, 7] and their applications to real problems [8].

Participation in Research Projects

- Mar 2018 **PRIN 2017, Ministero dell'Istruzione Università e Ricerca (MIUR), Italy.**
Researcher, PRIN project “DANTE: The integrateD mAnagement of cliNical daTa and procEsses: theory, methodologies and software tools”.
- Jul 2016 **PRIN 2015, Ministero dell'Istruzione Università e Ricerca (MIUR), Italy.**
Researcher, PRIN project “ADMIRE: dAta-Driven Management of clInical pRocEsses: theory, methodologies and software tools”, *Positively Rated by MIUR Panel*.
- Jan 2013 **An Integrative and Ubiquitous Healthcare Environment, Seventh Framework Programme (FP7), European Commission (EC).**
Collaboration in the definition and the submission of CARE-U STREP project proposal as member of the Coordinator Unit. *CARE-U has been positively rated but not funded*.
- Jan 2013 **Process-Aware Healthcare Information Systems for Personalized and Flexible Patient-Oriented Services (ELDERS), Seventh Framework Programme (FP7), European Commission (EC).**
Collaboration in the definition and the submission of ELDERS STREP project proposal as member of the Coordinator Unit. *ELDERS has been positively rated but not funded*.
- Jul 2013 **PRIN 2012, Ministero dell'Istruzione Università e Ricerca (MIUR), Italy.**
Researcher, PRIN project “Gestione integrata di dati e processi clinico-sanitari: teoria, metodologie e strumenti informatici”, *Positively Rated by MIUR Panel*.
- Jan 2012 **Process-based Services (PROSE), Seventh Framework Programme (FP7), European Commission (EC).**
Collaboration in the definition and the submission of PROSE STREP project proposal as member of the Coordinator Unit. *PROSE has been positively rated but not funded*.
- Jan 2011 **Context-Aware Business prOceSS Execution (CABOSSE), Seventh Framework Programme (FP7), European Commission (EC).**
Collaboration in the definition and the submission of CABOSSE STREP project proposal as member of the Coordinator Unit. *CABOSSE has been positively rated but not funded*.
- Jul 2012 **PRIN 2010-2011, Ministero dell'Istruzione Università e Ricerca (MIUR), Italy.**
Researcher, PRIN project “Metodologie e strumenti informatici per la gestione integrata di dati e processi clinico-sanitari”, *Positively Rated by MIUR Panel*.
- Jul 2011 **PRIN 2009, Ministero dell'Istruzione Università e Ricerca (MIUR), Italy.**
Researcher, PRIN project “Modellazione, gestione e analisi intelligente di processi clinici temporali”, *Positively Rated by MIUR Panel*, <http://www.di.univr.it/?ent=progetto&id=3700>.
- Sep 2008 **PRIN 2007, Ministero dell'Istruzione Università e Ricerca (MIUR), Italy.**
Researcher, PRIN project “Modellazione e gestione di aspetti temporali in workflow clinici”, *Positively Rated by MIUR Panel*, <http://www.di.univr.it/?ent=progetto&id=3434>.
- Jan 2005–Dec 2005 **Accesso integrato a informazione spazio-temporale, Università degli Studi di Verona, Italy.**
Researcher, University Project, <http://www.di.univr.it/?ent=progetto&id=1317>
- Jan 2004–Dec 2004 **Rappresentazione e interrogazione di dati spazio-temporali, Università degli Studi di Verona, Italy.**
Researcher, University Project, <http://www.di.univr.it/?ent=progetto&id=961>
- Nov 2004–Nov 2006 **PRIN 2004, Ministero dell'Istruzione Università e Ricerca (MIUR), Italy.**
Local Coordinator, PRIN project “Supporto di granularità multiple e definite dall'utente nella gestione ed interrogazione di informazioni cliniche caratterizzate temporalmente”, # 2004094558_003, <http://www.di.univr.it/?ent=progetto&id=2430>.
- Nov 2003–Nov 2005 **PRIN 2003, Ministero dell'Istruzione Università e Ricerca (MIUR), Italy.**
Researcher, PRIN project “Rappresentazione e interrogazione via Web di informazione geografica eterogenea in formato vettoriale e raster caratterizzata da aspetti temporali”, # 2003018941_006, <http://www.di.univr.it/?ent=progetto&id=745>.

Project “WebIntegrato”, Università degli Studi di Verona, Italy.

Senior consultant and Researcher, University project “WebIntegrato”. The scope of the project was to develop a web application framework and some web applications in order to allow the management and publication of the official information of the University of Verona in a distributed way among faculty and administrative members. The overall system won the 2005 Möbius Multimedia Award as the best University Web Site in Italian language, <http://www.moebiuslugano.ch>. The methodology of representation of data language translations has been published as full paper at the 4th International Conference on Web Engineering, München, 2004 [39].

Editorial Activities**International Conferences and Workshops****Chair for the following:**

2014

IEEE International Conference on Healthcare Informatics 2014 (ICHI 2014).
Local Arrangements Chair

2014

21st International Symposium on Temporal Representation and Reasoning (TIME 2014).
Organization Co-Chair

2012

International Workshop on Artificial Intelligence and NetMedicine (NETMED).
Program Committee Co-chair

Member for the following Organizing/Program Committees:

Since 2017

Artificial Intelligence International Conference. (A2IC).
Program Committee member

Since 2017

International Symposium on Temporal Representation and Reasoning. (TIME).
Program Committee member

Since 2016

International Conference on Agents and Artificial Intelligence (ICAART).
Program Committee member

2009

Conference on Artificial Intelligence in Medicine (AIME).
Organizing Committee member

Reviewer for the following:

2011

International Conference on Artificial Intelligence in Medicine (AIME).

2009

Annual European Symposium on Algorithms (ESA).

2008

International Conference on Frontier of Computer Science and Technology.

2001–2003

Symposium on Theoretical Aspects of Computer Science (STACS).

1993–1995

Workshop on Neural Networks (WIRN).

Journals**Reviewer for the following:**

Since 2018

Information Sciences.

Since 2017

Mathematical Reviews.

Since 2016

International Journal of Automation and Computing (IJAC).
<http://www.ijac.net/EN/column/column114.shtml>

Since 2013

Transactions on Intelligent Systems and Technology (TIST).

Since 2010

Transactions on Autonomous and Adaptive Systems (TAAS).

2007–2008

IEEE Transaction of Neural Networks (TNN).

2000

Journal of Complexity.

Talks

Talks at International Events

Presentations of papers

I presented the following papers at international conferences/workshops: [13, 12, 29, 33, 35, 37, 38, 39, 42, 43, 45].

Talks at National Events

Presentations of papers

I presented the following papers at national conferences/workshops: [40, 44, 46, 47].

Invited Talks

Jul 2015

Dealing with Temporal Business Processes: from Medical Applications to Checking Dynamic Controllability, *TEWI-Kolloquium at Information and Communication Systems Group*, Alpen-Adria University, Klagenfurt, Austria.

Apr 2015

Simple Temporal Constraint Networks with Partially Shrinkable Uncertainty, *Seminar for Artificial Intelligence and Knowledge Engineering Group*, Murcia University, Spain.

Nov 2013

Temporal Constraint Networks and Temporal Process Management: Some Recent Research Results, *DBIS Seminar*, Ulm University, Germany.

Visits

Apr 2018

Visiting Researcher, *Information and Communication Systems Group–University of Alpen-Adria*, Klagenfurt, Austria.

Dec 2016

Visiting Professor, *Escuela de Ingeniería Informática–University of Las Palmas de Gran Canaria*, Las Palmas de Gran Canaria, Spain.

Jul 2015

Visiting Researcher, *Information and Communication Systems Group–University of Alpen-Adria*, Klagenfurt, Austria.

Apr 2015

Visiting Researcher, *Artificial Intelligence and Knowledge Engineering Group–University of Murcia*, Murcia, Spain.

Feb 2015–Mar 2015

Visiting Research Scholar, *Institute of Databases and Information Systems–University of Ulm*, Ulm, Germany.

Dec 2014

Visiting Research Scholar, *College of Engineering–Northeastern University*, Boston, MA, USA.

Oct 2014–Dec 2014

Visiting Research Scholar, *Department of Computer Science–Vassar College*, Poughkeepsie, NY, USA.

Nov 2013

Visiting Researcher, *Institute of Databases and Information Systems–Ulm University*, Ulm, Germany.

Sep 2012

Visiting Researcher, *Department of Computer Science–Vassar College*, Poughkeepsie, NY, USA.

Jul 2005

Visiting Researcher, *Department of Computer Science–Queen Mary, University of London*, London, UK.

Teaching

Summary of Graduate & Undergraduate courses taught at Università degli Studi di Verona

2018

Ingegneria del software, *Laurea in Informatica*.

One semester.

- 2018 **Laboratorio di basi di dati**, *Laurea in Informatica e Laurea in Bioinformatica*.
Two courses. One semester.
- 2017 **Ingegneria del software**, *Laurea in Informatica*.
One semester.
- 2017 **Laboratorio di basi di dati**, *Laurea in Informatica e Laurea in Bioinformatica*.
Two courses. One semester.
- 2016 **Laboratorio di basi di dati**, *Laurea in Informatica e Laurea in Bioinformatica*.
Two courses. One semester.
- 2013 **Complessità computazionale**, *Laurea magistrale in Ingegneria e Scienze informatiche*.
Qualifying Course, One semester.
- 2012 **Complessità computazionale**, *Laurea magistrale in Ingegneria e Scienze informatiche*.
Qualifying Course, One semester.
- 2011 **Complessità computazionale**, *Laurea magistrale in Ingegneria e Scienze informatiche*.
Qualifying Course, One semester.
- 2009 **Complessità computazionale**, *Laurea magistrale in Ingegneria e Scienze informatiche*.
Qualifying Course, One semester.
- 2009 **Algoritmi Avanzati**, *Laurea magistrale in Ingegneria e Scienze informatiche*.
Qualifying Course, One semester.
- 2008 **Laboratorio di Algoritmi e Strutture Dati**, *Laurea in Informatica*.
One semester
- 2008 **Algoritmi Avanzati**, *Laurea specialistica in Informatica*.
One semester
- 2007 **Laboratorio di Algoritmi e Strutture Dati**, *Laurea in Informatica*.
One semester
- 2007 **Algoritmi Avanzati**, *Laurea specialistica in Informatica*.
One semester
- 2006 **Algoritmi Avanzati**, *Laurea specialistica in Informatica*.
One semester
- 2005 **Complessità Computazionale**, *Laurea specialistica in Informatica*.
One semester
- 2004 **Complessità Computazionale**, *Laurea specialistica in Informatica*.
One semester
- 2003 **Complessità Computazionale**, *Laurea specialistica in Informatica*.
One semester
- 2002 **Complessità Computazionale**, *Laurea specialistica in Informatica*.
One semester
- 2001 **Laboratorio di Algoritmi e Strutture Dati**, *Laurea in Informatica*.
One semester
- 2001 **Laboratorio di Basi Dati e Web**, *Laurea in Informatica*.
One semester
- 2001 **Complessità Computazionale**, *Laurea specialistica in Informatica*.
One semester
- 2000 **Laboratorio di Algoritmi e Strutture Dati**, *Laurea in Informatica*.
One semester

- 1996 **Laboratorio di Algoritmi e Strutture Dati**, *Laurea in Informatica*.
One semester
 - 1995 **Circuiti Logici e Digitali**, *Laurea in Informatica*.
15 hours
- Summary of Master & Phd courses taught at Università degli Studi di Verona**
- 2006 **Network operating systems**, *Master in Progettazione e gestione di sistemi di rete*.
One semester
 - 2005 **Network Operating Systems**, *Master in Progettazione e gestione di sistemi di rete*.
One semester
 - 2004 **Complessità Computazionale**, *Dottorato in Informatica*.
One semester
 - 2004 **Network Operating Systems**, *Master in Progettazione e gestione di sistemi di rete*.
One semester
 - 2001 **Progettazione e realizzazione d'ipertesti per siti Web**, *Master in Tecnologie e formazione in rete*.
One semester

Summary of courses taught at other institutions

- 2018 **Time in Information Systems (with applications in Medicine)**, *Faculty of Technical Sciences–University of Alpen-Adria*, Klagenfurt, Austria.
Intensive course on some aspects of temporal reasoning in information systems.
- 2016 **Introduction to the analysis of query planning in PostgreSQL**, *Escuela de Ingeniería Informática–University of Las Palmas de Gran Canaria*, Las Palmas de Gran Canaria, Spain.
Intensive course founded by Staff Mobility Teaching–Erasmus+ program.
- 1996 **Parallel Computational Models**, *ITIS G. Marconi*, Verona, Italy.
Refresher course for high-school teachers, 16 hours.
- 1994 **Computational Models**, *ITIS G. Marconi*, Verona, Italy.
Refresher course for high school teachers, 8 hours.
- 1991 **Neural Networks**, *ITIS G. Marconi*, Verona, Italy.
Refresher course for high school teachers, 8 hours.

Advising

At the Università degli Studi di Verona

Since 2000 Total number of Undergraduate and Graduate student supervised: 35.

- 2005 **Alessandro Daducci**.
PhD Preliminary Defense (Stato Avanzamento Tesi DdR)
- 2012-2014 **Alberto Sabaini**.
- 2011-2013 **Emad Samuel Malki Ebeid**.
- 2016-2017 **Francesca Zerbato**.

Doctoral or PhD thesis defense committees at other universities

- 2017 **Andreas Lanz**, *Institute of Databases and Information Systems at Ulm University*, Ulm, Germany.

Service

At the Università degli Studi di Verona

- 2018 • **GoTo Science**, *Dai Beatles ai vncoli temporali attraverso Bob Dylan*, Verona.
lecture at a GoTo Science meeting for spreading scientific culture to non-academic people.
- 2012–2016 ■ **Academic Disciplinary Committee Member.**
elected by the Academic Senate Members.
- Since Jan 2012 ■ **Computer Science PhD Committee Member.**
- Nov 2009–Oct 2012 ■ **Academic Senate Member.**
elected by the Assistant Professors of Sciences and Engineering.
- Nov 2006–Oct 2009 ■ **Academic Senate Member.**
elected by the Assistant Professors of Sciences and Engineering.
- Nov 2009–Oct 2012 ■ **Academic Standing Teaching Committee Member.**
elected by the Academic Senate Members.
- Nov 2006–Oct 2009 ■ **Academic Standing Budget Committee Member.**
elected by the Academic Senate Members.
- Nov 2004–Oct 2010 ■ **Assistant Professors' Spokesman**, *Faculty of Mathematical, Physical and Natural Science.*
elected by the Assistant Professors of Sciences and Engineering.
- Nov 2004–Oct 2012 ■ **Spin-Off Committee Member**, *Department of Computer Science.*
- 2008 • **Examination Board Member.**
for a 100 000€ computer server furniture.
- Jan 2004–Dec 2007 ■ **Scientific Committee Member**, *Master in "Progettazione e gestione di sistemi di rete".*
- 2006 • **Hiring Committee Member.**
for one IT Officer (D1 permanent staff category) position.
- 2002 • **Hiring Committee Member.**
for one IT technician (C1 permanent staff category) position.
- 2001 • **Hiring Committee Member.**
for one IT Officer (D1 permanent staff category) position.
- 2000–2001 ■ **Chair of an Examination Board.**
for a new 200 000€ Computer Science Department Labs furniture.
- 1998–2000 ■ **Chair of an University Committee.**
for the development of the new university intranet network (200 000€ project budget).

External Service

- 2009 • **Hiring Committee Member (elected)**, *Free University of Bolzano.*
for one Assistant Professor position in Computer Science
- 2006 • **Hiring Committee Member (elected)**, *Università degli Studi di Milano.*
for one Assistant Professor position in Computer Science
- 2001 • **Hiring Committee Member (elected)**, *Università degli Studi di Milano.*
for one Assistant Professor position in Computer Science
- Oct 1991–Sept 1992 ■ **Required Military Service**, Pesaro, Italy.

Publications

Refereed Journals

- [1] R. Posenato, A. Lanz, C. Combi, and M. Reichert, "Managing time-awareness in modularized processes," *Software & Systems Modeling*, pp. 1–20, Feb. 2018. On-line version. doi:10.1007/s10270-017-0643-4.
- [2] C. Comin, R. Posenato, and R. Rizzi, "Hyper temporal networks," *Constraints*, vol. 22, pp. 152–190, Apr. 2017. doi:10.1007/s10601-016-9243-0.
- [3] A. Cimatti, L. Hunsberger, A. Micheli, R. Posenato, and M. Roveri, "Dynamic controllability via Timed Game Automata," *Acta Informatica*, vol. 53, pp. 681–722, Oct. 2016. doi:10.1007/s00236-016-0257-2.
- [4] C. Combi, M. Gambini, S. Migliorini, and R. Posenato, "Representing business processes through a temporal data-centric workflow modeling language: An application to the management of clinical pathways," *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, vol. 44, pp. 1182–1203, Sept. 2014. doi:10.1109/TSMC.2014.2300055.
- [5] C. Combi, M. Gozzi, R. Posenato, and G. Pozzi, "Conceptual modeling of flexible temporal workflows," *ACM Transactions on Autonomous and Adaptive Systems (TAAS)*, vol. 7, pp. 191–1929, July 2012. doi:10.1145/2240166.2240169.
- [6] A. Daducci, A. Marigonda, G. Orlandi, and R. Posenato, "Neuronal fiber-tracking via optimal mass transportation," *Communications on Pure and Applied Analysis*, vol. 11, no. 5, pp. 2157–2177, 2012. doi:10.3934/cpaa.2012.11.2157.
- [7] G. Grossi, M. Marchi, and R. Posenato, "Solving Maximum Independent Set by Asynchronous Distributed Hopfield-Type Neural Networks," *RAIRO - Theoretical Informatics and Applications*, vol. 40, no. 2, pp. 371–388, 2006. doi:10.1051/ita:2006012.
- [8] P. Campadelli, R. Posenato, and R. Schettini, "An algorithm for the selection of high-contrast color sets," *Color Research & Application*, vol. 24, no. 2, pp. 132–138, 1999. doi:10.1002/(SICI)1520-6378(199904)24:2<132::AID-COL8>3.0.CO;2-B.
- [9] R. Posenato and M. Santini, "A new lower bound on approximability of the ground state problem for tridimensional ising spin glasses," *Information Processing Letters*, vol. 68, no. 4, pp. 167–171, 1998. doi:10.1016/S0020-0190(98)00157-4.
- [10] M. A. Alberti, A. Bertoni, P. Campadelli, G. Grossi, and R. Posenato, "A neural algorithm for max-2Sat: Performance analysis and circuit implementation," *Neural Networks*, vol. 10, no. 3, pp. 555–560, 1997. doi:10.1016/S0893-6080(96)00065-2.
- [11] A. Bertoni, P. Campadelli, C. Gangai, and R. Posenato, "Approximability of the Ground State Problem for Certain Ising Spin Glasses," *Journal of Complexity*, vol. 13, pp. 326–339, Sept. 1997. doi:10.1006/jcom.1997.0449.

Conferences and Workshops with referees and published proceedings

- [12] R. Posenato, F. Zerbato, and C. Combi, "Managing decision tasks and events in time-aware business process models," in *Business Process Management - 16th International Conference (BPM 2018)* (M. Weske, M. Montali, I. Weber, and J. vom Brocke, eds.), vol. 11080 of *Lecture Notes in Computer Science (LNCS)*, pp. 102–118, Springer, 2018. doi:10.1007/978-3-319-98648-7_7.
- [13] L. Hunsberger and R. Posenato, "Reducing epsilon-DC Checking for Conditional Simple Temporal Networks to DC Checking," in *25th International Symposium on Temporal Representation and Reasoning (TIME 2018)* (N. Alechina, K. Nørvåg, and W. Penczek, eds.),

- vol. 120 of *Leibniz International Proceedings in Informatics (LIPIcs)*, pp. 15:1–15:15, Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2018. doi : 10.4230/LIPIcs.TIME.2018.15.
- [14] L. Hunsberger and R. Posenato, “Sound-and-Complete Algorithms for Checking the Dynamic Controllability of Conditional Simple Temporal Networks with Uncertainty,” in *25th International Symposium on Temporal Representation and Reasoning (TIME 2018)* (N. Alechina, K. Nørvåg, and W. Penczek, eds.), vol. 120 of *Leibniz International Proceedings in Informatics (LIPIcs)*, pp. 14:1–14:17, Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2018. doi : 10.4230/LIPIcs.TIME.2018.14.
- [15] C. Combi and R. Posenato, “Extending Conditional Simple Temporal Networks with Partially Shrinkable Uncertainty,” in *25th International Symposium on Temporal Representation and Reasoning (TIME 2018)* (N. Alechina, K. Nørvåg, and W. Penczek, eds.), vol. 120 of *Leibniz International Proceedings in Informatics (LIPIcs)*, pp. 9:1–9:15, Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2018. doi : 10.4230/LIPIcs.TIME.2018.9.
- [16] L. Hunsberger and R. Posenato, “Simpler and faster algorithm for checking the dynamic consistency of conditional simple temporal networks,” in *Proceedings of the 26th International Joint Conference on Artificial Intelligence, IJCAI-18*, pp. 1324–1330, International Joint Conferences on Artificial Intelligence Organization, July 2018. doi : 10.24963/ijcai.2018/184.
- [17] M. Cairo, L. Hunsberger, R. Posenato, and R. Rizzi, “A Streamlined Model of Conditional Simple Temporal Networks - Semantics and Equivalence Results,” in *24th International Symposium on Temporal Representation and Reasoning (TIME 2017)* (S. Schewe, T. Schneider, and J. Wijsen, eds.), vol. 90 of *Leibniz International Proceedings in Informatics (LIPIcs)*, pp. 10:1–10:19, Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2017. doi : 10.4230/LIPIcs.TIME.2017.10.
- [18] M. Cairo, C. Combi, C. Comin, L. Hunsberger, R. Posenato, R. Rizzi, and M. Zavatteri, “Incorporating Decision Nodes into Conditional Simple Temporal Networks,” in *24th International Symposium on Temporal Representation and Reasoning (TIME 2017)* (S. Schewe, T. Schneider, and J. Wijsen, eds.), vol. 90 of *Leibniz International Proceedings in Informatics (LIPIcs)*, pp. 9:1–9:18, Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2017. doi : 10.4230/LIPIcs.TIME.2017.9.
- [19] M. Zavatteri, C. Combi, R. Posenato, and L. Viganò, “Weak, strong and dynamic controllability of access-controlled workflows under conditional uncertainty,” in *Business Process Management - 15th International Conference (BPM 2017)* (J. Carmona, G. Engels, and A. Kumar, eds.), vol. 10445 of *Lecture Notes in Computer Science (LNCS)*, pp. 235–251, Springer, 2017. doi : 10.1007/978-3-319-65000-5_14.
- [20] C. Combi, R. Posenato, L. Viganò, and M. Zavatteri, “Access controlled temporal networks,” in *Proceedings of the 9th International Conference on Agents and Artificial Intelligence (ICAART 2017)* (J. van den Herik, A. P. Rocha, and J. Filipe, eds.), vol. 2, pp. 118–131, SCITEPRESS, Feb. 2017. doi : 10.5220/0006185701180131.
- [21] L. Hunsberger and R. Posenato, “A new approach to checking the dynamic consistency of conditional simple temporal networks,” in *Proceedings of 22nd International Conference on Principles and Practice of Constraint Programming, CP 2016*, pp. 268–286, 2016. doi : 10.1007/978-3-319-44953-1_18.
- [22] A. Lanz, R. Posenato, C. Combi, and M. Reichert, “Controlling Time-Awareness in Modularized Processes,” in *Enterprise, Business-Process and Information Systems Modeling*,

17th International Conference, BPMDS 2016, 21st International Conference, EMMSAD 2016, pp. 157–172, 2016. doi:10.1007/978-3-319-39429-9_11.

- [23] L. Hunsberger and R. Posenato, “Checking the Dynamic Consistency of Conditional Temporal Networks with Bounded Reaction Times,” in *Proceedings of the 26th International Conference on Automated Planning and Scheduling, ICAPS 2016*, pp. 175–183, 2016. URL: <http://www.aaai.org/ocs/index.php/ICAPS/ICAPS16/paper/view/13108>.
- [24] L. Hunsberger, R. Posenato, and C. Combi, “A sound-and-complete propagation-based algorithm for checking the dynamic consistency of conditional simple temporal networks,” in *22nd International Symposium on Temporal Representation and Reasoning (TIME 2015)* (F. Grandi, M. Lange, and A. Lomuscio, eds.), pp. 4–18, IEEE CPS, Sept. 2015. doi:10.1109/TIME.2015.26.
- [25] A. Lanz, R. Posenato, C. Combi, and M. Reichert, “Simple temporal networks with partially shrinkable uncertainty,” in *Proceedings of the 6th International Conference on Agents and Artificial Intelligence (ICAART 2015)*, vol. 2, pp. 370–381, 2015. doi:10.5220/0005200903700381.
- [26] C. Combi, L. Hunsberger, and R. Posenato, “An Algorithm for Checking the Dynamic Controllability of a Conditional Simple Temporal Network with Uncertainty - Revisited,” in *Agents and Artificial Intelligence - 5th International Conference, ICAART 2013. Revised Selected Papers*, vol. 449 of *Communications in Computer and Information Science (CCIS)*, pp. 314–331, Springer, 2014. doi:10.1007/978-3-662-44440-5_19.
- [27] C. Comin, R. Posenato, and R. Rizzi, “A tractable generalization of simple temporal networks and its relation to mean payoff games,” in *21st International Symposium on Temporal Representation and Reasoning (TIME 2014)* (A. Cesta, C. Combi, and F. Laroussinie, eds.), pp. 7–16, IEEE CPS, Sept. 2014. doi:10.1109/TIME.2014.13.
- [28] A. Cimatti, L. Hunsberger, A. Micheli, R. Posenato, and M. Roveri, “Sound and complete algorithms for checking the dynamic controllability of temporal networks with uncertainty, disjunction and observation,” in *21st International Symposium on Temporal Representation and Reasoning (TIME 2014)* (A. Cesta, C. Combi, and F. Laroussinie, eds.), pp. 27–36, IEEE CPS, Sept. 2014. doi:10.1109/TIME.2014.21.
- [29] R. Rizzi and R. Posenato, “Optimal design of consistent simple temporal networks,” in *TIME 2013 - 20th International Symposium on Temporal Representation and Reasoning* (C. Sánchez, K. B. Venable, and E. Zimányi, eds.), pp. 19–25, IEEE CPS, 2013. URL: <https://doi.org/10.1109/TIME.2013.12>, doi:10.1109/TIME.2013.12.
- [30] A. Lanz, R. Posenato, C. Combi, and M. Reichert, “Controllability of time-aware processes at run time,” in *On the Move to Meaningful Internet Systems: OTM 2013 Conferences - Confederated International Conferences: CoopIS, DOA-Trusted Cloud, and ODBASE 2013*, pp. 39–56, 2013. doi:10.1007/978-3-642-41030-7_4.
- [31] C. Combi, L. Hunsberger, and R. Posenato, “An algorithm for checking the dynamic controllability of a conditional simple temporal network with uncertainty,” in *Proceedings of the 5th International Conference on Agents and Artificial Intelligent (ICAART 2013)* (J. Filipe and A. Fred, eds.), vol. 2, pp. 144–156, SCITEPRESS, Feb. 2013. Accepted as full paper. doi:10.5220/0004256101440156.
- [32] C. Combi, M. Gambini, S. Migliorini, and R. Posenato, “Modelling temporal, data-centric medical processes,” in *ACM International Health Informatics Symposium (IHI '12)* (G. Luo, J. Liu, and C. C. Yang, eds.), pp. 141–150, ACM, 2012. doi:10.1145/2110363.2110382.

- [33] C. Combi and R. Posenato, "On the complexity of temporal controllabilities for workflow schemata," in *Proceedings of the ACM Symposium on Applied Computing (SAC 2012)* (S. Ossowski and P. Lecca, eds.), pp. 60–66, ACM, 2012. doi:10.1145/2245276.2245292.
- [34] L. Hunsberger, R. Posenato, and C. Combi, "The Dynamic Controllability of Conditional STNs with Uncertainty," in *Workshop on Planning and Plan Execution for Real-World Systems: Principles and Practices (PlanEx) @ ICAPS-2012*, pp. 21–29, June 2012. URL: <http://arxiv.org/abs/1212.2005>, arXiv:1212.2005.
- [35] C. Combi and R. Posenato, "Towards temporal controllabilities for workflow schemata," in *TIME 2010 - 17th International Symposium on Temporal Representation and Reasoning* (N. Markey and J. Wijsen, eds.), pp. 129–136, IEEE CPS, 2010. doi:10.1109/TIME.2010.17.
- [36] C. Combi and R. Posenato, "Controllability in temporal conceptual workflow schemata," in *Business Process Management, 7th International Conference, (BPM 2009)* (U. Dayal, J. Eder, J. Koehler, and H. A. Reijers, eds.), vol. 5701 of *Lecture Notes in Computer Science (LNCS)*, pp. 64–79, Springer, 2009. doi:10.1007/978-3-642-03848-8_6.
- [37] P. Boldi, R. Posenato, M. Santini, and S. Vigna, "Traps and pitfalls of topic-biased pagerank," in *Algorithms and Models for the Web-Graph, Fourth International Workshop, (WAW 2006)* (W. Aiello, A. Z. Broder, J. C. M. Janssen, and E. E. Milios, eds.), vol. 4936 of *Lecture Notes in Computer Science (LNCS)*, pp. 107–116, Springer, 2006. doi:10.1007/978-3-540-78808-9_10.
- [38] A. Bertoni, P. Campadelli, and R. Posenato, "Analysis of a genetic model with finite populations," in *Advances in Natural Computation, First International Conference, (ICNC 2005)* (L. Wang, K. Chen, and Y. Ong, eds.), vol. 3612 of *Lecture Notes in Computer Science (LNCS)*, pp. 235–244, Springer, 2005. doi:10.1007/11539902_28.
- [39] A. Belussi and R. Posenato, "A framework for the internationalization of data-intensive web applications," in *Web Engineering - 4th International Conference (ICWE 2004)* (N. Koch, P. Fraternali, and M. Wirsing, eds.), vol. 3140 of *Lecture Notes in Computer Science (LNCS)*, pp. 478–482, Springer, 2004. doi:10.1007/978-3-540-27834-4_58.
- [40] G. Grossi and R. Posenato, "A distributed algorithm for max independent set problem based on hopfield networks," in *Neural Nets, 13th Italian Workshop on Neural Nets, (WIRN 2002)* (M. Marinaro and R. Tagliaferri, eds.), vol. 2486 of *Lecture Notes in Computer Science (LNCS)*, pp. 64–74, Springer, 2002. doi:10.1007/3-540-45808-5_6.
- [41] S. Comai, E. Damiani, R. Posenato, and L. Tanca, "A schema-based approach to modeling and querying WWW data," in *Flexible Query Answering Systems, Third International Conference (FQAS'98)* (T. Andreasen, H. Christiansen, and H. L. Larsen, eds.), vol. 1495 of *Lecture Notes in Computer Science (LNCS)*, pp. 110–125, Springer, 1998. doi:10.1007/BFb0055995.
- [42] A. Bertoni, P. Campadelli, and R. Posenato, "A Upper Bound of the Maximum Cut Mean," in *Graph Theoretic Concepts in Computer Science (WG 97)* (R. H. Möhring, ed.), vol. 1335 of *Lecture Notes in Computer Science (LNCS)*, Springer-Verlag, June 1997. doi:10.1007/BFb0024489.
- [43] M. A. Alberti, A. Bertoni, P. Campadelli, G. Grossi, and R. Posenato, "A Neural Circuit for the Maximum 2-Satisfiability Problem," in *Proceedings Euromicro Workshop on Parallel and Distributed Processing (EUROMICRO 95)* (M. Valero and A. Gonzalez, eds.), pp. 319–323, EUROMICRO, IEEE Computer Society Press, Jan. 1995. doi:10.1109/EMPDP.1995.389192.

- [44] A. Bertoni, P. Campadelli, R. Posenato, and M. Santini, “Approximability of GROUND STATE Problem on Tridimensional Ising Sping Glasses (extended abstract),” in *Proceedings of the 5th Italian Conference on Theoretical Computer Science (ICTCS 95)* (A. D. Santis, ed.), pp. 492–496, EATCS, World Scientific Publishing Co., Nov. 1995.
- [45] G. Grossi, R. Posenato, D. Palmisano, and E. Pasero, “Fast prototyping for hardware neural networks,” in *Proceedings of the 5th International Conference on Artificial Neural Networks (ICANN 95)* (F. Fogelman-Soulié and P. Gallinari, eds.), vol. 1, pp. 411–416, European Neural Network Society, EC2 & Cie, Oct. 1995.
- [46] A. Bertoni, P. Campadelli, and R. Posenato, “Polynomial Time Approximation of Min-Energy in Hopfield Networks,” in *Proceedings of the 7th Italian Workshop on Neural Nets (WIRN 1995)* (M. Marinaro and R. Tagliaferri, eds.), pp. 165–170, IIASS, World Scientific Publishing Co., 1995.
- [47] M. A. Alberti, P. Marelli, and R. Posenato, “A Neural Algorithm for the Maximum Satisfiability Problem,” in *Proceedings of the 6th Italian Workshop on Neural Nets (WIRN 1993)* (E. R. Caianello, ed.), pp. 173–179, Università degli Studi di Salerno, World Scientific Publishing Co., May 1993.
- [48] A. Bertoni, P. Campadelli, A. Morpurgo, and R. Posenato, “An Algorithm for Learning from Positive Examples Classes of Linearly Separable Boolean Functions,” in *Proceedings of the 4th Italian Workshop on Parallel Architectures and Neural Networks (IWPANN 91)* (E. R. Caianello, ed.), pp. 11–19, IIASS, World Scientific Publishing Co., May 1991.

Technical Reports

- [49] L. Hunsberger and R. Posenato, “Dynamic-consistency checking for conditional simple temporal networks: Strengthening the theoretical foundations and presenting a faster algorithm,” Tech. Rep. 103, Computer Science Department-University of Verona, Feb. 2018. URL: <http://hdl.handle.net/11562/973404>.
- [50] L. Hunsberger and R. Posenato, “Reducing dynamic-consistency (dc) checking for conditional simple temporal networks (cstns) with bounded reaction times to standard dc checking for cstns,” Tech. Rep. 104, Computer Science Department-University of Verona, Feb. 2018. URL: <http://hdl.handle.net/11562/973408>.
- [51] L. Hunsberger and R. Posenato, “Dynamic controllability checking for conditional simple temporal networks with uncertainty: New sound-and-complete algorithms based on constraint propagation,” Tech. Rep. 105, Computer Science Department-University of Verona, Feb. 2018. URL: <http://hdl.handle.net/11562/977720>.
- [52] A. Lanz, R. Posenato, C. Combi, and M. Reichert, “Controlling time-awareness in modularized processes (extended version),” Technical Report UIB-2015-01, Ulm University, Mar. 2015. URL: <http://dbis.eprints.uni-ulm.de/1133/>.
- [53] A. Lanz, R. Posenato, C. Combi, and M. Reichert, “Simple temporal networks with partially shrinkable uncertainty (extended version),” Tech. Rep. UIB-2014-05, Ulm University, Faculty of Engineering and Computer Science, Dec. 2014. URL: <http://dbis.eprints.uni-ulm.de/1124/>.
- [54] A. Belussi and R. Posenato, “Internationalizing Data-Intensive Web Applications,” Tech. Rep. DI 16/2004, Dipartimento di Informatica - Università degli Studi di Verona, Apr. 2004.

- [55] A. Bertoni, P. Campadelli, R. Posenato, and M. Santini, “Approximability of the Ground State Problem for Tridimensional Ising Spin Glasses,” Tech. Rep. RI-DSI 217-98, Dipartimento di Scienze dell’Informazione - Università degli Studi di Milano, 1998.

Theses

- [56] R. Posenato, *Ottimizzazione approssimata di funzioni quadratiche nell’ambito delle reti neurali e dei vetri di spin*. PhD thesis, Università degli Studi di Milano, Feb. 1996. Advisors: A. Bertoni and P. Campadelli.
- [57] R. Posenato, “Apprendimento di neuroni binari a soglia mediante esempi positivi,” tech. rep., MSc thesis, Università degli Studi di Milano, Feb. 1991. Advisor: P. Campadelli.

Software

Since 2012

CSTNU Tool, <http://profs.scienze.univr.it/~posenato/software/cstnu>.

Software suite for (i) graphically building/visualizing CSTN(U)s, (ii) checking CSTN(s) using different algorithms, and (iii) running different benchmarks. Checking algorithms have been described in [31, 26, 24, 23, 49, 50, 51].

2015

HyTN Tool, <http://profs.scienze.univr.it/~posenato/software/hytn>.

Software suite for (i) checking HyTN(s) using different algorithms, and (ii) running different benchmarks. Checking algorithms have been described in [2].

November 26, 2018

Roberto Posenato