Alessandro Moschitti

Contents

1 Current Positions

Principal Scientist (since April 1, 2015)
Qatar Computing Research Institute (QCRI), Hamad bin Khalifa University, Qatar.

Associate Professor (since September 2014)
Department of Computer Science and Information Engineering, University of Trento, Italy.

Full Professor (since September 2013)
Qualified full professor by the Italian National Academic System (ANVUR).

2 Education

PhD in Computer Science and Control Engineering (May 2003)
University of Rome, "Tor Vergata", Rome, Italy.
Title: *Natural Language Processing and Automated Text Categorization: a study on the reciprocal beneficial interactions*
Traditional Text Categorization (TC) uses *bag-of-words* representation to design classification functions. The thesis studies the interactions between Natural Language Processing (NLP) and TC by focusing on real-world applications. The extensive empirical study of the thesis demonstrates that NLP is ineffective for improving standard TC whereas the latter can improve automatic Summarization, Question Answering and FrameNet parsing.

Visiting Scholar (June 2002 – Nov. 2002)
Department of Computer Science, University of Texas at Dallas, USA
Research Project: *Text Categorization for Question Answering Systems*
Collaborators: Sanda Harabagiu and Dan Moldovan
Human Language Technology Research Institute, University of Texas at Dallas, USA
Attended PhD and masters courses:

    Artificial Intelligence (CS 6364);
    Advanced Professional and Technical Communication (CS 5301);
    Information Retrieval (CS 6322);
    Natural Language Processing and Internet Applications (CS 6320); and
    Neural Networks and Machine Learning (CS 6375).

MSc. in Computer Science, *summa cum laude* (March, 1998)
Department of Computer Science at the University of Rome, "La Sapienza", Rome, Italy
Title: *Neural Networks and NP-hard optimization problems.*
The thesis proposes new Neural Networks for efficiently computing an approximate solution of the Traveling Salesman Problem (TSP). The thesis also presents an extensive empirical analysis using the optimal solutions provided by (i) super-polynomial algorithms (for small TSP instances) and (ii) ad-hoc benchmarks.

3   Professional experience

Senior Scientist (April 5, 2013 – April 1, 2015)
Qatar Computing Research Institute (QCRI), Qatar Foundation, Qatar.

Qualified Associate and Full professor (since 2013)
Department of Computer Science and Information Engineering, University of Trento, Italy.

Assistant professor (September 2007-13)
Department of Computer Science and Information Engineering, University of Trento, Italy.

Visiting Research Scientist (since December 2009-2013)
Discontinuous visits, ranging from 1 months to 1 week.
Project: *The Grand Jeopardy! Challenge and deepQA technology*
Collaborators: David Ferrucci, Jennifer Chu Carroll, David Gondek, James Fan, Chris Welty
IBM Watson Research Center, New York, USA

Visiting Professor (February – March 2011)
Project: *Automated Verb Class Classification and Clustering*
Collaborators: Martha Palmer and James Martin
Computational Linguistics and Computer Science Department, University of Colorado at Boulder, CO, USA

Visiting Professor (July – October 2008)
Project: *Mean Time Between Failure*
Collaborators: David Waltz and Albert Boulanger
Center for Computational Learning Systems, Columbia University, New York, USA

Senior Researcher (July – August 2007)
Project: *Exploiting Lexical & Encyclopedic Resources for Entity Disambiguation*
Collaborators: Massimo Poesio and David Day
NSF-Funded JHU Summer Workshop
Center for Language and Speech Processing, John Hopkins University, Baltimore, USA

Visiting Research Scientist (February – March 2007)
Project: *Semantic Role Labeling for Modern Standard Arabic*
Collaborators: Mona Diab and Owen Ranbow
Center for Computational Learning Systems, Columbia University, New York, USA

Research Associate (Nov. 2002 – July 2004)
Project: *Computational Implicatures for Advanced Question Answering*
Collaborators: Sanda Harabagiu and Dan Moldovan
Human Language Technology Research Institute, University of Texas at Dallas, USA

Working Experience pre-doctorate

Instructor for (March 2000 - July 2003)

Hewlett Packard SPA, Rome, Italy

EDS (Electronic Data System) SPA, Rome, Italy

Performa s.r.l., Rome, Italy

Teaching of Programming Courses (few weeks): Java, C++, SQL, JSP, Windows

Project Manager (March 1998 - Dec. 1999)
Faraday srl, Rome, Italy
Designing and developing of dynamic Web sites

Analyst Programmer (Sept. 1988 - Dec. 1989) S.E.A (Strumentazione Eletettronica Avanzata) s.r.l., Rome, Italy
Designing of advanced electronic measurement systems in the field of Nuclear Energy

4   Scholarship

4.1   Scholarly Metrics

h-index: 35

i10-index: 82

Total citations about 4,000

4.2   Systems

4.2.1   My System Implementation

Kernel Toolkit (for SVMs): available at http://disi.unitn.it/~moschitt/Tree-Kernel.htm

Tree and string kernels, multi-vector data representation, ranking, etc.
PropBank and FrameNet parsers [Moschitti, ACL 2004; Moschitti et al, CoNLL 2005; Moschitti et. al, FE 2005; Moschitti, ACL 2004; ECML2006; EACL 2006; HLT-NAACL 2006; Coppola et al, SLT 2009; Coppola et al, HLT-NAACL 2009; Coppola & Moschitti, LREC 2010].

Text Categorization Framework (TCF)

All classification steps, from documents in free text format to the final f-measure evaluation (completely written in C language). It includes: binary as well as multi-class classification (ONE-vs-ALL), Feature Selection (DF, χ^2, Rocchio-based,...), Rocchio text classifier, *The Parameterized Rocchio Classifier* [Moschitti, ECIR 2003], a K-NN text classifier, SVM text classifier (SVM-light software is used to implement the binary classifiers), Document Clustering.

Named Entity Recognizer

Implementation (in C/C++) of Identifinder (the well known Dan Bikel's named entity recognizer). Based on Hidden Markov models and smoothing techniques. Training and evaluation on MUC-6 data.

Other Minor Implementations

Java implementation of the Rocchio Text Classifier (NAMIC project).

Automatic Ipertext construction.

Word Sense Disambiguation algorithms based on WordNet glosses.

4.2.2   System Design with my Students and/or Colleagues

1. *Interactive sYstem for Answer Search* (IYAS) Framework for QCRI (adaptable NLP processing pipelines for Arabic and English).

2. Eight SRL systems: three different PropBank systems for English, one system for Arabic PropBank, two FrameNet parsers for English (one of which was the most accurate system in the SRL challenge of SENSEVAL 2004), and one parser for Italian FrameNet.

3. Two supervised Relation Extraction systems [Nguyen et al, EMNLP 2009][Plank and Moschitti, ACL 2013]

4. Relation Extraction System for Wikipedia [Nguyen and Moschitti, ACL 2011, IJCNLP 2011]

5. A system for concept segmentation and labeling of speech dialogs [Dinarelli et al, IEEE 2011]

6. Fine-Grained Opinion Analysis system, [Johansson and Moschitti, CoNLL 2010, COLING 2010, ACL 2011]

7. A toolkit for fast learning with structural kernels [Severyn and Moschitti, ECML 2010 and 2011]

8. Semantic mapping of natural language questions into SQL queries [Giordani and Moschitti, ECML 2009]

9. Named Entity Recognizer based on structural reranking [Nguyen et al, COLING 2010]

10. Textual Entailment Recognition systems [Moschitti and Zanzotto, ICML 2007]

11. Coreference Resolution systems based on structural kernels for English [Versley et al, COLING 2008], Arabic and Chinese [Uryupina et al, CoNLL 2012]

12. Question Answering Pipeline [Severyn & Moschitti, SIGIR 2012][Severyn, Nicosia & Moschitti, CIKM 2013][Timoshenko et al, EACL 2014]

4.2.3   Systems Evaluated in International Evaluation Campaigns

1. **SemEval-2015 Task 10: Sentiment Analysis in Twitter**
   Rank: 1st for subtask A and **Rank: 2**st (out of 40) for subtask B
   International Organization: SemEval `http://alt.qcri.org/semeval2015/task10/`.
   Task Definition: `http://alt.qcri.org/semeval2015/task10/`
   System Results (see system "UNITN')

2. **SemEval-2015 Task 3: Answer Selection in Community Question Answering**
   Rank: 1st for Arabic language subtask
   International Organization: SemEval `http://alt.qcri.org/semeval2015`.
   Task Definition: `http://alt.qcri.org/semeval2015/task3/`
   System Results (see system "QCRI")

3. **Automatic Labeling of FrameNet Semantic Roles (Senseval 2004**)
   Rank: 1st [Bejan et al., ACL-ws 2004]
   International Organization: Senseval-3 (http://www.senseval.org/).
   Task Definition: http://www.clres.com/SensSemRoles.html
   System Results (see "UTDMorarescu)":
   `www.cse.unt.edu/~rada/senseval/senseval3/proceedings/pdf/litkowski1.pdf`

4. **PropBank Semantic Role Labeling – CoNLL 2005 shared task**
   Rank: 8th out of 20 [Moschitti et al., CoNLL 2005]:
   International Organization: CoNLL-shared task (http://www.lsi.upc.es/~srlconll/)
   Task Definition: www.lsi.upc.es/~srlconll/spec.html
   System Results (see "moschitti"): www.lsi.upc.es/~srlconll/st05/st05.html

5. **Recognizing Textual Entailment Challenge**, 2nd Challenge,
   Rank: 3rd out of 23 [Zanzotto et al, RTE 2006, Zanzotto and Moschitti, ACL-Coling 2006]
   International Organization: PASCAL - Pattern Analysis, Statistical Modeling and Computational Learning (http://www.pascal-network.org/Challenges/RTE2/)
   System Results (see "zanzotto"):
   www.pascal-network.org/Challenges/RTE2/Results/

6. **Recognizing Textual Entailment**, 3rd challenge
   Rank: among the top positions [Zanzotto et al, RTE 2007]
   International Organization: PASCAL - Pattern Analysis, Statistical Modeling and Computational Learning (www.pascal-network.org/Challenges/RTE3/)
   System Results ("zanzotto"):
   www.pascal-network.org/Challenges/RTE3/Results/

7. **Recognizing Textual Entailment,** 4rd challenge:

   Rank: highly ranked system [Zanzotto et al., TAC 2008]

   International Organization: Text Analysis Conference (TAC) (www.nist.gov/tac)

   Task definition and Results ("PeMoZa"): www.nist.gov/tac/2008/RTE

8. **Recognizing Textual Entailment,** 5th challenge:

   Rank: highly ranked system [Medhad et al., HLT-NAACL 2010]

   International Organization: Text Analysis Conference (TAC) (www.nist.gov/tac)

   Task definition and Results ("PeMoZa/SemKer"): www.nist.gov/tac/2009/RTE

9. **Modeling Multilingual Unrestricted Coreference in OntoNotes – CoNLL 2012 shared task**

   Rank: 5th out of 16 (third in Arabic language) [Uryupina et al, CoNLL 2012]:

   International Organization: CoNLL-shared task

   Task Definition: http://conll.cemantix.org/2012/call-for-participation.html

   System Results (urypina): http://conll.cemantix.org/2012

5   Achievements

5.1   Awards

1. *Best paper Award 2015* (with Kateryna Tymoshenko) at The 24th ACM International Conference on Information and Knowledge Management (CIKM).

2. *IBM Faculty Award* 2015, Hybrid Knowledge Retrieval for Dialog & Question Answering – Award given by IBM USA and IBM Italy.

3. *Particularly Deserving Promotion Award 2014* (given by the University of Trento).

4. *Distinguished Young Papers Award* 2014 at the Italian Conference on Computational Linguistics (with a QCRI intern).

5. IBM *Shared University Research* (SUR) Award 2013 – Award given by IBM Italy and IBM USA.

6. *Google Faculty Award* 2011, Opinion Mining from YouTube. In 2011, the award for NLP has been given to only 6 NLP researchers in the entire world.

7. *IBM Faculty Award* 2011, generalizing the Watson system with Kernel Methods – Award given by IBM USA for my work on Kernel Methods for question answer reranking.

8. *Best Student Paper Award* 2011 in Machine Learning at The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD). This is the flagship conference for the ML European community. It is a large conference (up to 500 people) with a long tradition (since 1986).

9. *IBM Faculty Award* 2010 for the Jeopardy! Project – Award given by IBM USA for my work on question classification (my software is integrated in the famous IBM Watson system).

10. *Best Paper Award* 2010 at The International Conference on Computational Linguistics and Intelligent Text Processing (CICLING).

11. *Best Student Paper Award* 2010 at The third Workshop Analytics for Noisy Unstructured Text Data.

5.2   Projects

Summary: I am a scientific coordinator for 1 US/Qatar project. I was/am a consortium coordinator and scientific coordinator (PI) for 3 European Projects, I was the PI of a PRIN project and another Italian project. I was (I am) the PI of 3 IBM projects and 2 Google projects. I have also been co-PI (i.e., I contributed to write the proposal but then my name did not go on the project contract) of 1 European project, one national project and one PAT project. Then, I also participated to 8 European/national projects as team leader or researcher. In total: PI for 1 consortium, PI for 10 projects, Co-PI for 3 projects and participated in other 8 projects. Hereafter, there is my detailed project list.

5.2.1   USA Project Grants

1. **Google PhD Student Fellowship program** (Sept. 2015 – Apr. 2017)
   Automatic Feature Engineering Using Structural Kernels and Deep Convolutional Neural Networks
   Google Inc., USA
   Role: PI

2. **IBM Faculty Award** (June 2015 – May 2016)
   Hybrid Knowledge Retrieval for Dialog & Question Answering
   IBM Watson Center, New York, USA
   Role: PI

3. **IBM SUR Award** (Sept. 2013 – Sept. 2014)
   Linked Open Data and state-of-the-art textual semantic similarity for Passage Structural Reranking
   IBM Watson Center, New York, USA
   Role: PI

4. **Google PhD Student Fellowship program** (Sept. 2013 – Apr. 2015)
   Large-Scale Relational Learning from Structural Data and its Application to Natural Language Processing
   Google Inc., USA
   Role: PI

5. **IBM Faculty Award** (July 2011 – July 2012)
   Machine Learning Models for easy and fast domain adaptation of deepQA technology

IBM Watson Center, New York, USA
Role: PI

6. **Google Faculty Award** (Dec. 2011 – Dec. 2012)
Opinion Mining from Youtube
Google EMEA, Zurich, Switzerland
Role: PI

7. **IBM Faculty Award** (July 2010 – July 2011)
The second grand challenge of machines to mankind after Deep blue. The IBM system competed with real contestants on America's favorite quiz show, Jeopardy!
IBM Watson Center, New York, USA
Role: Co-PI

8. **Mean Time Between Failures (MTBF)** (July 2008 – July 2009)
Machine Learning for the Prediction of Electric Component Failure
Columbia University and Consolidate Edison of New York, USA
Role: Technical team leader

9. **Arda Aquaint Program** (Nov. 2002 – July 2004)
Computational Implicatures for Advanced Question Answering
University of Texas at Dallas, USA
Role: Technical team leader
Syntactic and deep semantic annotation of Question/Answer data.
Automated Predicate Argument Extraction: FrameNet semantic roles [Bejan et al., SenSeval 2004] and PropBank semantic arguments [Moschitti, ACL 2004].

5.2.2   European Community Projects

1. **CogNet** (July 2015 – Dec. 2017)
Building an Intelligent System of Insights and Action for 5G Network Management
Horizon 2020 - Research and Innovation Framework Programme Project#: RIA 671625
University of Trento, Italy
Role: PI (Partner and WP Coordinator)

2. **LiMoSINe** (STREP, November 2011 – October 2014)
Linguistically Motivated Semantic aggregation engines
Project#: IST 288024
University of Trento, Italy
Role: PI (Partner and WP Coordinator)

3. **EternalS** (Coordinate Action, March 2010 – March 2013)
Trustworthy Eternal Systems via Evolving Software, Data and Knowledge
Project#: IST 247758
University of Trento, Italy
Role: PI (Coordinator of the project consortium)

4. **LivingKnowledge** (FET, January 2009 – January 2012)
   Opinion Mining from Multimedia Data, Knowledge Diversity Management, Fact and Event extraction/clustering
   University of Trento, Italy
   Role: Co-PI (Work Package leader)

5. **LUNA** (October 2007 – October 2010)
   Spoken **L**anguage **UN**derstanding in multilingu**A**l communication systems
   Project#: IST 33549
   http://www.ist-luna.eu/
   University of Trento, Italy
   Role: Technical team member
   Conceptual and (specialized) FrameNet Annotation Supervision and FrameNet parser design for spoken dialog systems.

6. **PrestoSpace** (Sept. 2004 – January 2006)
   Preservation towards storage and access. Standardised Practices for audio-visual contents in Europe
   http://www.prestospace.org/
   University of Rome "Tor Vergata", Italy
   Project#: FP6-507336
   Role: Technical team leader
   Modeling of machine learning algorithms for multimedia information management.

7. **NAMIC** (Nov. 2000 – March 2002)
   News Agencies Multilingual Information Categorization
   http://www.dcs.shef.ac.uk/nlp/namic/
   Project: IST-1999-12392
   University of Rome "Tor Vergata", Italy
   Role: Technical team member
   Multilingual (English, Spanish and Italian) Text Classifiers, document clustering for automatic designing of category hierarchies, semantic-based algorithms for cross-lingual hypertext construction.

8. **TREVI** (Oct 1998 – Nov. 2000)
   Text Retrieval and Enrichment for Vital Information
   http://cordis.europa.eu/esprit/src/23311.htm
   Project #23311
   University of Rome "Tor Vergata", Italy
   Role: technical team member
   Modeling and implementation of profile-based Text Classifiers trained with syntactic information

5.2.3 Italian Projects

1. **e-Value** (July 2011 – July 2012)
   Intelligent Information Systems for Ericsson book classification

      University of Trento, Italy
      Role: Co-PI

2. **PARLI: PRIN 2008** (January 2010 – September 2012)
   Portale per l'Accesso alle Risorse Linguistiche per l'Italiano
   University of Trento, Italy
   Role: PI (partner coordinator)

3. **LiveMemories** (PAT project, October 2008 – October 2010)
   Automatic Managing Collective Multimedia Memories
   University of Trento, Italy
   Role: Co-PI

4. **RSRnT** (April 2007 – July 2008)
   Relation extraction from Italian trial documents
   CM-Sistemi SPA, Rome, Italy
   Role: PI

5. **IBM** project grant (October 2006 – January 2007)
   Classification of Health Claims
   Role: Technical team leader
   Modeling and implementation of Text Classifiers for the classification of medical claims
   addressed to the National Italian Health system.

6. **MIND** (July 2006 – October 2006)
   Dialog Systems for Public Information Service
   Consorzio CERTIA (*Centro per la Ricerca, lo Sviluppo e la Formazione nelle Tecnologie
   e Applicazioni Informatiche*), Rome, Italy
   Role: Technical team leader
   Interactive Question Answering for dialog applications

5.2.4   Qatar Projects

1. **Doha City Browser** (July 2013 – June 2016)
   *Advanced Interactive and Multimodal Question Answering System based on Adaptable
   deepQA Technology.*
   Qatar Computing Research Institute (QCRI) and MIT-CSAIL, USA
   Role: PI for the QCRI side

2. *Interactive sYstem for Answer Search* Iyas (since July 2013)
   Qatar Computing Research Institute (QCRI)
   Role: PI

5.3   Scholarships

1. Meant Time Between Failure – Columbia University (August 2008 – October 2008)

2. RSRnT project – CM Sistemi SPA (April 2007 – July 2008)

3. JHU Summer Workshop – Johns Hopkins University (July – August 2007)

4. Shallow Semantic Parser for Arabic – Columbia University (Feb. 2007 – March 2007)

5. European project: LUNA (April 2007 – Sept. 2007).

6. Italian project: Mind (May 2006 – Sept. 2006)

7. Italian project: IBM (Oct. 2006 – Feb. 2007)

8. *National University Grant "Assegno di Ricerca"*: "Apprendimento automatico e kernel methods per l'apprendimento di conoscenza linguistica" – University of Rome "Tor Vergata" (Sept. 2005 – Sept. 2006).

9. European project: PrestoSpace (Sept. 2004 – Sept. 2005).

10. Participation Scholarship at the 25th European Conference on Information Retrieval Research, 2003

11. USA Project: ARDA AQUAINT, *Computational Implicatures for Advanced Question Answering*, (Nov. 2002 – July 2004).

12. European project: NAMIC (Nov. 2000 – March 2002).

13. European project: TREVI (Oct. 1998 – Nov. 2000).

14. Participation Scholarship at 7th Conference of the Association for Artificial Intelligence, 2001.

6   Academic Work

6.1   Teaching (1999-2015)

Computer Science and Engineering Department at the University of Trento, Italy
Teacher for the following courses:

1. PhD level course: *Natural Language Processing in IBM Watson*
   Academic year: 2011-2012

2. PhD level course: *Structured Input-Output Support Vector Machines*
   Academic years: 2009-2010-2011

3. PhD level course: *Advanced Kernel Methods*
   Academic year: 2008-2009

4. MSc/PhD level course: *IBM Watson Ecosystem (the same for the PhD course)*
   Academic year: 2014-2015

5. MSc Level (Bachelor): *Computer Science Foundation*
   Academic years: 2014-2015

6. MSc Level (Laurea Specialistica): *Natural Language Processing and Information Retrieval*
   Academic years: 2011-2012-2013

7. MSc Level (Laurea Specialistica): *Machine Learning*
   Academic years: 2008-2009-2010-2011

8. MSc Level in Human Language Information Technology and Interfaces: *Machine Learning for Natural Language Processing (and Information Retrieval)*
   Academic Years: 2007-2008-2009-2010-2011

9. MSc Level (Laurea Specialistica): *Computer Science Foundations (Informatica per Matematica e Fisica)*
   Academic years: 2010-2011-2012-2013

10. MSc Level (Laurea Specialistica): *Computer Science Foundations (Informatica Generale per Matematica)*
    Academic years: 2008-2009-2010

11. MSc Level (Laurea Specialistica): *Computer Science Foundations I (Informatica Generale I)*
    Academic year: 2007-2008

12. MSc Level (Laurea Specialistica): *Computer Science Foundations II (Informatica Generale II)*
    Academic year: 2007-2008

Computer Science Department at the University of Rome "Tor Vergata", Italy
Teacher/Teaching Assistant for the following courses:

13. MSc Level: *Statistical machine learning for Information Retrieval" within the course of Information Retrieval: "Metodi per la gestione e il recupero di informazione*
    Academic year: 2006-2007

14. MSc Level: *Statistical machine learning for Information Retrieval within the Distributed Database course*
    Academic years: 2004-2005-2006

15. MSc Level: *Fondamenti d'Informatica II* (Computer Science Foundations for Computer Engineering)
    Academic year: 2001-2002

16. MSc Level: *Fondamenti d'Informatica II* (Computer Science Foundations for Mechanical Engineering)
    Academic year: 2001-2002

17. MSc Level: *Fondamenti d'Informatica* (Computer Science Foundations for Computer Engineering)
    Academic year: 2000-2001

Department of Cognitive Science at the University of Trento, Italy
Teacher for the following courses:

18. Computational Methods for Data Analysis
    Academic year: 2011-2012-2013

19. Machine Learning for Cognitive Science
    Academic years: 2009-2010-2011

Department of Computer Engineering at the University of Padua, Italy
Teacher for the following courses:

20. PhD level: Learning with Structural Kernels: from theory to practice
    Academic year: 2009-2010

6.2   Thesis Advisor and Postgraduate Scholar Sponsor

I have been a thesis advisor and postgraduate scholar sponsor for about 27 students. All of them have attained a high scholarly level: one student achieved the best student paper awards at ECML 2011 and the prestigious Google PhD fellowship (the only award for machine learning in Europe in 2013), a second student won the best paper award at the international workshop AND 2010; and a third student achieved the IBM PhD fellowship in 2013. Three other students (different from those mentioned before) have been or are permanent researchers at IBM Watson, NY and Google EMEA.

Advised Students

1. Azad Abad, (since Mar. 2013), PhD student, University of Trento, Italy

2. Iryna Haponchyk, (since Sept. 2012), PhD student, University of Trento, Italy

3. Kateryna Timoshenko (since Jan. 2013), postdoc fellow, University of Trento, Italy

4. Olga Uryupina (since Nov. 2011), postdoc fellow, University of Trento, Italy

5. Massimo Nicosia, (since Sept. 2012), PhD student (previous masters student), University of Trento, Italy

6. Antonio Uva, (since Oct. 2013), PhD student (previous masters student), University of Trento, Italy

7. Gianni Barlacchi, (since Jan. 2013), PhD student (previous masters student), University of Trento, Italy

8. Daniele Bonadiman, (since 2014), graduate student (previous masters student), University of Trento, Italy

Past students

9. Aliaksei Severyn (Nov. 2009–May2015), PhD student, University of Trento, Italy

10. Hector Franco (Oct. 2011-July 1), postdoc fellow, University of Trento, Italy

11. Muhammad Rizwan Rasheed, (Oct. 2012 - Jan. 2013), masters student, University of Trento, Italy

12. Niu Xiao, (Feb. 2012 – April 2013), masters student, University of Trento, Italy

13. Barbara Plank (Dec. 2011 – June 2013), postdoc fellow, University of Trento, Italy (*postdoc University of Copenaghen, Danmark*)

14. Ju Qi (Nov. 2009 – May 2013), PhD student, University of Trento, Italy (*E-commerce China Dangdang Inc., China*)

15. Alessandra Giordani (Nov. 2007 – Oct. 2012), PhD student, University of Trento, Italy (*lecturer for the University of Trento, Italy*)

16. Richard Johansson (Jan. 2009 – Sept. 2011), postdoc fellow, University of Trento, Italy (*research associate at the University of Gothenburg*)

17. Vien Nguyen Truc (Nov. 2007 – April 2011), PhD student, University of Trento, Italy (*postdoc at the University of Lugano, Italy*)

18. Patrick McKenna (April 2010 – Sept. 2010), masters student, University of Trento, Italy (*Project Manager of FedDev Sheridan, Ontario, Canadan*)

19. Daniele Pighin (April 2010 – Sept. 2010), postdoc fellow, (Nov. 2006 - 2009), PhD student, University of Trento, Italy, and, (Nov. 2004 – 2006), masters student, (*Researcher of Google Inc. EMEA*)

20. Bonaventura Coppola (Nov. 2005 – Apr. 2009), PhD student, University of Trento, Italy (*researcher at IBM Watson*)

21. Silvia Quarteroni (June 2006 – Jan. 2007), PhD student, University of York, UK, and (Jan. 2007 – Jan. 2008), postdoc fellow, University of Trento (*Manager at ELCA Informatique SA / ELCA Informatik AG, Switzerland*)

22. Ana-Maria Giuglea (June 2004 – April 2006), graduate student, University of Rome, Tor Vergata, Italy (*Warner Bros Entertainment, USA*)

23. Marco Cammisa (June 2004 – Sept. 2006), graduate student, University of Rome, Tor Vergata, Italy (*Researcher/Engineer at Exprivia, Rome*)

24. Md. Sajedur Rahman (Mar. 2003 – July 2004), masters students, University of Texas at Dallas, USA.

25. Rahman, Milind Prakash Honrao (Mar. 2003 – July 2004), masters students, University of Texas at Dallas, USA.

26. Sudip Shekhawat (Mar. 2003 – July 2004), masters students, University of Texas at Dallas, USA.

27. Maurizio Polidori (2005 – 2006), masters student, University of Rome Tor Vergata.

28. Daniele Bartoli (1999 – 2000), masters student, University of Rome Tor Vergata.

6.3   Institutional Management Work

Computer Science and Engineering Department at the University of Trento, Italy

Manager for department seminars and their allocated budget (2009 – 2013).

Responsible of the course schedule for the masters and bachelor degrees in Computer Science (2009 – 2013).

Responsible of the course schedule for the masters in Human Language Technology (2008 – 2011).

Committee member of the PhD School Council (2007 – present).

One of the three members of the selection committee for the PhD school applications of 2009 (about 80 scholarships for 600 applications).

Member of the Informatics Area Council for masters and bachelor degrees in Computer Science (2007 – 2012).

Member of the Mathematics Area Council for masters and bachelor degrees in Mathematics (2007 – 2012).

6.4   Support to Research Communities

I am an active member of different research communities and I often assume a chair role. Among other, I have been the PC co-chair of CoNLL and the EMNLP 2014 General Chair (GC). The GC is elected by an international committee composed by the previous PC and GC chairs of the conference. EMNLP is the second most important NLP conference in NLP (e.g., see https://scholar.google.com/citations?hl=en&view_op=search_venues&vq=EMNLP). It has a very long tradition, since 1992. The number of attendees is lately over 500. The number of submitted papers to EMNLP 2014 has been 840 (the acceptance rate is 20-27%).

6.4.1   Organizer/Chair of Conferences and Workshops

27. Program co-Chair of the Nineteenth Conference on Computational Natural Language Learning – CoNLL 2015.

26. General Chair of The Conference on Empirical Methods for Natural Language Processing – EMNLP 2014.

25. Sponsorship co-Chair for the Association of Computational Linguistics – (E)ACL 2014 Conferences

24. Co-Chair of the workshops, *Semantic Matching in IR* (SMIR) at SIGIR 2014

23. Area co-Chair (semantics) for the Fourth Joint Conference on Lexical and Computational Semantics 2015.

22. Area co-Chair for Semantics and Knowledge Acquisition of CLIC 2014 (Italian Conference on Computational Linguistics)

21. Area co-Chair for Semantics of ACL 2013

20. Area Chair for Semantic Processing of IJCNLP 2013

19. Senior PC member of IJCAI 2013 (Machine Learning area)

18. Co-Chair Eternals'13 at the international Symposium, ESSoS 2013 (The Third International Workshop in Trustworthy Eternal Systems via Evolving Software, Data and Knowledge)

17. Co-Chair for the CoNLL-shared task 2012

16. Tutorial co-Chair for ECML PKDD 2012

15. Co-Chair for the Workshops of EACL 2012

14. Area Chair of ECML PKDD 2012

13. Co-Chair of the Evalita SRL shared task 2012

12. Area co-Chair of the Statistical and Machine Learning Methods for ACL 2011

11. Co-Chair of EternalS'12 at ECAI 2012 (Joint workshop on Intelligent Methods for Software System Engineering 2012).

10. Co-Chair of Eternals'11 at the international conference fet^{11}.

9. Chair of the track: Trustworthy Eternal Systems via Evolving Software, Data and Knowledge (EternalS) at the international conference, ISOLA 2010.

8. Co-Chair of the 6th edition of the workshop "Graph-based Methods for Natural Language Processing" - TextGraphs 2011.

7. Co-Chair of the 5th edition of the workshop "Graph-based Methods for Natural Language Processing" - TextGraphs 2010.

6. Advisor Board for *BioASQ - A Challenge on Large Scale Biomedical Semantic Indexing and Question Answering* (since 2012).

5. Organization Committee member for the Conference for the Italian Association for Artificial Intelligence 2007 (AIIA2007) conference.

4. Chair of the workshops of the International School in Information Extraction (SCIE) 2007.

3. Co-Chair of the EACL 2006 Workshop, *Learning Structured Information in Natural Language Applications.*

2. Member of the Organization Committee of SCIE 2002, University of Rome "Tor Vergata", Italy.

1. Session chair at CoNLL 2014, *SEM 2013, ECML PKDD 2012, ACL 2012, EMNLP-CoNLL 2012, CoNLL-shared Task 2012, ACL-HLT 2011, EMNLP 2011, LREC 2010, ACL 2010, CIKM 2008, SCIE 2007, EACL 2006, ICTAI 2001 (the activity for workshops is not included).

6.4.2   Editorial Boards

1. The Scientific World Journal (since 2013) – <u>Action Editor</u>

2. The Journal of Natural Language Engineering (since 2013)

3. The Journal of Artificial Intelligence Research (JAIR, since 2012)

4. The Journal on Data Semantics (JoDS, since 2011)

5. <u>Guest editor</u> for the special issue of The Journal of Natural Language Engineering on *Statistical Learning of Natural Language Structured Input and Output* (2010 – 2012).

6. Special issue of the Computational Linguistics Journal on *Semantic Role Labeling* (guest editorial board: 2006-2008).

7. Special issue of the Journal of Natural Language Engineering on Distributional Lexical Semantics (guest editorial board 2009-2010)

8. Special issue of the Journal of Natural Language Engineering on Textual Entailment (guest editorial board 2008)

6.4.3 International PhD Committee Member

1. Tapio Pahikkala, *New kernel functions and learning methods for text and data mining* PhD Thesis - Faculty of Mathematics and Natural Sciences – University of Helsinki – Finland.

2. Richard Johansson, *Dependency-based Semantic Analysis of Natural-language Text.* Department of Computer Science, Lunds University, Sweden. Defended on December 5, 2008. (Chair of the committee)

3. Beñat Zapirain Sierra, *Semantic Role Labeling: Role Inventories and Selectional Preferences,* Technical University of Catalonia, Spain, September 2010.

4. Sun Jun, *Kernel Methods for NLP and SMT*, PhD Thesis - National University of Singapore (NUS), 2011.

5. Edgar Gonzàlez i Pellicer, *Unsupervised Learning of Relation Detection Patterns*, Universitat Politècnica de Catalunya, Spain, 2012.

6. Manuel Eduardo Ares Brea, *Constrained Clustering Algorithms: Practical Issues and Applications*, Department of Computer Science, University of A Coruña, Spain, 2013.

7. Alessio Palmero Aprosio, *Extending Linked Open Data resources exploiting Wikipedia as source of information*, Universitá di Milano, Italy, 2013.

8. Diego Marcheggiani, *Beyond Linear Chain: A Journey through Conditional Random Fields for Information Extraction from Text*, (Universitá di Venezia, 2014).

6.4.4 Program committee member for International Conferences and Workshops

I have been PC member of more than 40 different types of conferences and workshops (for several years, in total hundreds of PCs) and reviewer for more than 33 different types of journals. I reviewed for many International Fund Agencies. My overall review activity accounts for about 1000 reviews.

40. First IEEE International Conference on Big Data (IEEE BigData 2013)

39. The Association for the Advancement of Artificial Intelligence (AAAI 2011, 2012).

38. Biomedical Question Answering Workshop (BioASQ 2013)

37. Joint Symposium on Semantic Processing (JSSP 2013)

36. Italian Association of Artificial Intelligence (AI*IA 2012, 2013).

35. International Conference on Man-Machine Interactions (ICMMI 2013).

34. The International Conference on Association for Computational Linguistics (ACL 2007, 2010, 2012, 2013, 2014), for several tracks, including demos and short papers.

33. The International Conference on Human Language Technology and ACL (HLT-ACL 2011), full paper and short paper sections.

32. The International Joint Conference on Natural Language Processing (IJCNLP 2013).

31. HLT and the North Chapter of the Association for Computational Linguistics (HLT-NAACL 2007, 2012, full paper and short paper sections).

30. The International Conference on Computational Linguistics (COLING 2004, 2008, 2010, 2012, 2014).

29. The ACL-COLING (2006, two areas, Computational Semantics and Syntactic Parsing).

28. The International Conference of the Special Interest Group in Information Retrieval (SIGIR 2002, 2006, 2007, 2009, 2010, 2011, 2013, 2014).

27. The International Conference on Natural Language Learning (CoNLL 2006, 2008, 2009, 2010, 2011, 2012, 2013, 2014).

26. CoNLL shared task (years 2011, 2012)

25. The Conference on Empirical Methods for Natural Language Processing (EMNLP 2008, 2009, 2010, 2011, 2013. Several areas: Computational Semantics, Text and Sentiment Classification, Word Sense Disambiguation Question Answering, Semantics, Machine Learning)

24. EMNLP-CoNLL (years 2007, 2012, three different areas: Computational Semantics, Text and Sentiment Classification, Word Sense Disambiguation).

23. The European Conference on Computational Linguistics (EACL 2006, 2009, 2012, 2014).

22. The European Conference on Machine Learning (ECML 2008, 2010, 2012).

21. TextGraphs-3, 5, 6, 7 and 8: Graph-based Algorithms for Natural Language Processing (years 2008, 2010, 2011, 2012, 2013).

20. Towards Genre-enabled search engines: the impact of NLP, International Workshop held with RANLP 2007 conference.

19. Geometrical Models of Natural Language Semantics – (EACL workshop 2009, 2011).

18. IEEE Automatic Speech Recognition and Understanding Workshop (ASRU 2007, 2009)

17. Conference on Information and Knowledge Management (CIKM 2011)

16. Conference on Theory of Information Retrieval (ICTIR 2011)

15. Annual Conference of the International Speech Communication Association (Interspeech 2011, 2012, 2013, 2014).

14. International Joint Conference on Artificial Intelligence (IJCAI 2011, 2013)

13. Symposium on Computational Intelligence and Data Mining (CIDM 2011)

12. Joint Conference on Lexical and Computational Semantics (*SEM 2012, 2013)

11. SIAM International Conference on Data Mining (SDM 2012)

10. Large Scale Hierarchical Text Categorization (LSHTC 2012)

9. International Semantic Web Conference 2013 (ISWC 2013)

8. Italian Information Retrieval Workshop (IIR 2012, 2013, 2014)

7. International Conference on Machine Learning (ICML 2009, 2012, 2013, 2014)

6. International Symposium on Foundation of Open Source Intelligence and Security Informatics (FOSINT 2012, 2013, 2014)

5. Extended Semantic Web Conference (ESWC 2012, 2013)

4. European Intelligence and Security Informatics Conference (EISIC 2012, 2013)

3. JIMSE 2012: Joint workshop on Intelligent Methods for Software System Engineering

2. The Tenth International Conference on Computational Semantics (IWCS)

1. First International Workshop on MAchine Learning and Information Retrieval for Software Evolution (MALIR-SE 2013).

6.4.5   Book and book chapter reviewer

1. Christopher D. Manning, Prabhakar Raghavan and Hinrich Schütze, *Introduction to Information Retrieval*, Cambridge University Press. 2008.

2. Genres on the Web, Computational Models and Empirical Studies, Alexander Mehler, Serge Sharoff, Georg Rehm and Marina Santini (eds.)

3. Martha Palmer, Daniel Gildea, Nianwen Xue. *Semantic Role Labeling*, Paperback ©2010 - ISBN 1598298313.

4. Kai-Uwe Kuehnberger, *Modeling, Learning, and Processing of Text Technological Data Structures*, in Springer's Computational Intelligence series, 2011.

6.4.6   National and International Project Reviewer

1. Swiss National Science Foundation (SNSF)

2. The French National Research Agency (ANR)

3. Italian National Agency (PRIN)

4. German Research Foundation (DFG)

5. Israel Science Foundation (ISF)

6. European Commission (EC) – project reviewer

7. Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR)

8. Portugal National Agency (FCT) Fundação para a Ciência e a Tecnologia

9. Czech Science Foundation (CSF)

10. Fonds National de la Research (Luxemburg)

11. Unity through Knowledge Fund (Republic of Croatia)

12. Netherlands Organization for Scientific Research

6.4.7   Journal Reviewer

33. ACM Transaction on Internet Technology (years 2011, 2012)

32. ACM Transactions on Information Systems (TOIS, years 2011, 2012, 2013, 2014)

31. ACM Transactions on Speech and Language Processing (year 2012)

30. ACM Transactions on Asian Language Information Processing (years 2008, 2010, 2011, 2013)

29. ACM Transactions on Intelligent Systems and Technology (year 2011)

28. IEEE Transactions on Knowledge and Data Engineering (years 2006, 2007)

27. IEEE Transactions on Pattern Analysis and Machine Intelligence (years 2006, 2012)

26. IEEE Intelligent Information Systems (year 2004)

25. IEEE Transactions on Signal Processing (year 2012)

24. IEEE Transactions on Affective Computing (year 2013)

23. Information Retrieval Journal (year 2010, 2011)

22. The Journal of Machine Learning Research (JMLR 2002, 2009, 2013)

21. The Machine Learning Journal (MLJ) Special Issue on Mining and Learning with Graphs (year 2007)

20. Computational Linguistics Journal (year 2007, 2012, 2013)

19. The Journal of Natural Language Engineering (JNLE 2006, 2007, 2008, 2009, 2011, 2013)

18. Journal for Computational Linguistics and Language Technology (GLDV-Journal) a special issue on "Ontologies in Text Technology" (year 2007)

17. Elsevier, Information Science (year 2009, 2011, 2012)

16. Elsevier, Neurocomputing Journal (2013)

15. International Journal of Computer Systems Science & Engineering (year 2007)

14. Computational Intelligence Journal (year 2011)

13. Transaction of the Association for Computational Linguistics (year 2012)

12. The Journal of Artificial Intelligence Research (years 2005, 2008, 2009, 2010, 2012, 2013)

11. Artificial Intelligence Journal (years 2010, 2011, 2013)

10. Theoretical Computer Science (year 2012)

9. AI communications (years 2011, 2012)

8. The International Journal of Artificial Intelligence Tools (years 2006, 2011)

7. Information Science Journal (year 2011)

6. Journal of Web Semantics (year 2011, 2014)

5. The Journal on Data Semantics (JoDS, 2011, 2012, 2013, 2014)

4. International Journal of Machine Learning and Cybernetics (year 2012)

3. Engineering Applications of Artificial Intelligence (year 2012)

2. Data Mining and Knowledge Discovery (year 2012, 2013)

1. Journal of Computer Science and Technology (JCST 2013)

6.4.8   Reviewer for International Conferences and Workshops:

1. Conference on Language Resources and Evaluation (LREC 2008, 2010, 2012).

2. The European Conference on Information Retrieval (ECIR 2005).

3. The Web Intelligence Conference (WIC 2003).

4. Neural Information Processing Systems (NIPS 2012, 2013, 2014)

5. International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2008, 2009)

6. International Symposia on Formal Methods for Components and Objects (FMCO 2012)

7. Recent Advancement in Natural Language Processing (RANLP 2013)

6.4.9   Tutorials

I gave tutorials in 3 flagship conferences, i.e., SIGIR, ACL, Interspeech, of 3 different research communities, Information Retrieval, Computational Linguistics, and Speech Processing, respectively.

1. **ACM SIGIR Special Interest Group on Information Retrieval** (SIGIR 2013)
   Dublin, Ireland.
   Title: *Kernel-based learning to rank with syntactic and semantic structures*

2. **Conference of the Association for Computational Linguistics** (ACL 2012)
   Jeju Island, Korea
   Title: *State-of-the-Art Kernels for Natural Language Processing*

3. **International Conference of Computational Linguistics** (COLING 2010)
   China, Beijing
   Title: *Kernel Engineering for Fast and Easy Design of Natural Language Applications*

4. **International Conference on Spoken Language Processing** (Interspeech 2010)
   Tokyo, Japan
   Title: *Kernel Engineering for Fast and Easy Design of Natural Language Applications*

5. **The 11th ACS/IEEE International Conference on Computer Systems and Applications** (AICCSA'2014), Doha, Qatar
   Title: *Structural Kernels for Automatic Design of Computer Applications*

6. **Semantic Web Applications and Perspectives** (SWAP 2007)
   Dipartimento di Informatica – Universitá degli Studi di Bari - Italy
   Title: *Support Vector Machines and Kernel Methods for Robust Extraction of Textual Knowledge*

6.5   Keynote Speeches

1. **Semantic Matching in Information Retrieval** (SMIR) workshop at SIGIR 2014:
   Title: *Kernel Methods for Semantic Matching*

2. **ICT days - IBM Research: Watson, la frontiera del Cognitive Computing** (May 5, 2014)
   Title: *Tecnologia Semantica Adattabile: dalla sfida Jeopardy! alle moderne applicazioni dellelaborazione del linguaggio naturale*
   Website: https://www.youtube.com/watch?v=YrHSbdzcyFY

3. **First Google Event in Trento** (May 5, 2014)
   Title: *Practical Structure Prediction: reranking NLP system output*
   Website:http://disi.unitn.it/moschitti/GET2014

4. **Technical Expert Council Italia Spring Meeting** (May 24, 2012)
   Internal Annual Meeting of the IBM Italy
   Title: *Technologies for Intelligent Information Management*

5. **Third AI*IA Workshop on Industrial Experience on Semantic Technology**
   – Esperienze Industriali delle Tecnologie Semantiche (June 15, 2012)
   In conjunction with the Conference of the Italian Association for Artificial Intelligence
   Title: *Natural Language Processing Information Retrieval: from heuristic-based search to deep Question Answering of IBM Watson*
   Website: http://rcra.aixia.it/workshops/semexp2012

6. **First Italian Workshop on Machine Learning and Data Mining** (Sept. 2012)
   Conference of Italian Association for Artificial Intelligence
   Universitá di Roma "La Sapienza" (Italy)
   Title: *Structural Relationships for Large-Scale Learning of Answer Re-ranking*
   Website: http://www.dsi.unifi.it/∼paolo/mldmit.html

7. **Workshop on DDR-2011: Diversity in Document Retrieval** (April 18, 2011, Dublin, Ireland)
   In conjunction with ECIR 2011 - the 33rd European Conference on Information Retrieval
   Title: *Analysis of Document Diversity through Sentence-Level Opinion and Relation Extraction*
   Website: http://www.dcs.gla.ac.uk/workshops/ddr2011/keynotes.shtml

8. **Workshop on Human Language Technologies for Italian AI*IA** (December 1st 2010)
   In conjunction with the 11th AI*IA Symposium on Artificial Intelligence
   University of Brescia, Italy
   Title: *Natural Language Parsing and applications to deepQA*
   Website: https://sites.google.com/a/aixia.it/nlp/hltita-2010

9. **Workshop on Multimodal Interactive Question Answering** (March 2010)
   University of Bolzano (Italy)
   Title: *Kernels on Syntactic/Semantic Structures for Answer Selection*

10. **Workshop of Qall-me project – Panel** (Sept. 2009)
    Fondazione Bruno Kessler (Trento – Italy)
    Title: *Shallow Semantics for Question Answering: a supervised machine learning perspective*
    Website: http://hlt.fbk.eu/en/news/24250909

11. **Workshop on *Research Challenges in Speech and Natural Language Processing*** (Sept. 2005)
    Conference of Italian Association for Artificial Intelligence
    Universitá di Milano "Bicocca" (Italy)
    Title: *Kernel Methods for Fast Design of Accurate Natural Language Applications*
    Website: http://aiia2005.disco.unimib.it

6.6   Seminars

28. **Computer Science Department, University of Melbourne, Oct. 23, 2015**
    Title: Structural Features for Passage Reranking in Question Answering Systems

27. **CS Dept., Brandeis University, Boston area, Sept., 2015**
    Title: Structural Features for Passage Reranking in Question Answering Systems

26. **MIT-CSAIL, Boston, 2015**
    Title: Structural Features for Passage Reranking in Question Answering Systems

25. **BNN Technologies, Boston area, 2015**
    Title: Structural Features for Passage Reranking in Question Answering Systems

24. **University of Umea, Sweden, May 2015.**
    Title: Beyond the excellence: Structural Kernels for the IBM Watson Jeopardy! System

23. **University of Melbourne, Australia** (2014)
    Title: Structural Kernels for Natural Language Processing

22. **IBM Watson, NY** (2014)
    Title: Encoding Semantic Resources in Syntactic Structures for Passage Reranking

21. **Centre for Language Technology, University of Gothenburg, Swiss** (2012)
    Title: Shallow Semantic Models for Automatically Answering Complex Jeopardy! Questions

20. **Google EMEA, Switzerland** (2012)
    Title: Structural Kernels for Accurate Question Answering Systems

19. **Computer Science Department, University of Colorado at Boulder** (2011)
    Title: Kernel Engineering: The Natural Language Processing Case

18. **The Institute of Cognitive science, University of Colorado at Boulder** (2011)
    Title: Shallow Semantic Models for Automatically Answering Complex Jeopardy! Questions

17. **IBM Watson Research Center of New York, USA** (2011)
    Title: State-of-the-art Kernels in Natural Language Processing

16. **IBM Watson Research Center of New York, USA** (2009)
    Title: Advanced Machine Learning and Natural Language Processing for Question Classification and Answer Reranking

15. **University of Saarbrücken, Germany** (2009)
    Title: Kernel Methods for Semantic Role Labeling and Spoken Language Understanding

14. **Computer Science Department** (2008)
    Berkeley University, California
    Title: *Semantic Role Labeling and Kernel Methods for Question Answering and Spoken Language Understanding*

13. **Computer Science Department** (2008)
    Columbia University, New York, USA
    Title: *Kernel Methods for Shallow Semantic Processing: from Question Answering to Spoken Language Understanding*

12. **Fondazione Bruno Kessler – Trento** (2008)
    Title: *Kernels on Linguistic Structures for Question Answering Systems*

11. **School of Informatics** (2008)
    University of Edinburgh - England
    Title: *Kernel Methods and Support Vector Machines for Shallow Semantic Processing*

10. **Computer Science Department** (2007)
    Carnegie Mellon University - Qatar
    Title: *Recent Advances in Information Retrieval: The Text Categorization and Question Answering Cases*

9. **Center for Language and Speech Processing** (2007)
   John Hopkins University - Baltimore
   Summer Workshop on Human Language Technology
   Title: *Kernel Engineering for Natural Language Processing Applications*

8. **Center for Computational Learning Systems** (2007)
   Columbia University, New York, USA
   Title: *Effective and Efficient Kernels for Texts*

7. **Center for Computational Learning Systems** (2007)
   Columbia University, New York, USA
   Title: *Kernel Engineering for Natural Language Processing Applications*

6. **Dipartimento di Matematica Pura ed Applicata** (2006)
   Universitá di Padova
   Title: *Tree Kernels for Natural Language Learning*

5. **Department of Information and Communication Technology** (2006)
   Universitá di Trento
   Title: *Advanced Machine Learning for NLP-based Information Retrieval*

4. **Dipartimento di Scienze Fisiche, Sezione Informatica** (2005)
   Universitá "Federico II" di Napoli
   Title: *Kernel Methods for Natural Language Learning*

3. **Information Science Institute (ISI) - Los Angeles – USA** (2005)
   Title: *Kernel Methods for Semantic Role Labeling*

2. **ITC-IRST – Trento** (2004)
   Title: *Kernel Methods for Shallow Semantic Parsing*

1. **ARDA commission** (2002)
   HLT Research Institute of the University of Texas at Dallas
   Title: *Efficient Text Categorization*

7 Scientific impact

In total I obtained **93 top-tier conference publications** (class A according to Core Conference Portal – http://103.1.187.206/core): these are comparable to class A journals of other research areas/communities. Overall I achieved a total of **217** peer-reviewed publications: **93** top-tier conference publications, e.g., ACL, EMNLP, Coling, SIGIR, CIKM, ICDM, ICML, ECML, etc.; **19** journal papers; **21** book chapters (or Springer LNCS); **25** non-top-tier publications; **39** workshops (they typically have an acceptance rate around 50%); **1 book** (another one is in progress); **1** PhD thesis; **13 edited books** (among which three Springer CCIS); and **5** miscellaneous publications (1 book review, 3 tutorial notes and 1 special issue introduction).

8 Publications

Enumeration in reverse to easily count the items for each category.

8.1 Books

2. [Moschitti, Book 2014], Alessandro Moschitti, *Kernel Methods for Natural Language Processing*. To appear in *Synthesis Lectures on Human Language Technology*. Morgan & Claypool Publishers, US.

1. [Basili and Moschitti, Book 2005], Roberto Basili and Alessandro Moschitti, *Automatic Text Categorization: from Information Retrieval to Support Vector Learning*. Aracne editrice, Rome, Italy.

8.2 Edited Books

13. [Alishahi and Moschitti, edited book CoNLL 2015] Afra Alishahi, Alessandro Moschitti. Book of Proceedings of the 19th Conference on Computational Natural Language Learning, CoNLL 2015, Beijing. Association for Computational Linguistics and The Asian Federation of Natural Language Processing (ACL-IJCNLP), China, July 30-31, 2015.

12. [Basili et al., edited book PARLI 2015] Editors: Roberto Basili, Cristina Bosco, Rodolfo Delmonte, Alessandro Moschitti, Maria Simi, Harmonization and Development of Resources and Tools for Italian Natural Language Processing within the PARLI Project, Studies in Computational Intelligence. Springer International Publishing, Volume 589, Switzerland, January 2015.

11. [Moschitti et al., edited book EMNLP 2014] Alessandro Moschitti, Bo Pang, Walter Daelemans (Eds.): Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing, EMNLP 2014, October 25-29, 2014, Doha, Qatar, A meeting of SIGDAT, a Special Interest Group of the ACL. ACL 2014, ISBN 978-1-937284-96-1

10. [Gonzalo et al., edited book SMIR 2014] Julio Gonzalo, Hang Li, Alessandro Moschitti and Jun Xu, Proceedings of the workshop, *Semantic Matching in Information Retrieval* (SMIR), held in conjunction with SIGIR 2014.

9. [Basili et al, edited book 2015] R. Basili, C. Bosco, R. Delmonte, A. Moschitti, M. Simi (Eds): *Harmonization and Development of Resources and Tools for Italian Natural Language Processing within the PARLI Project*, Studies in Computational Intelligence, Springer 978-3-319-14205-0, (to appear).

8. [Moschitti and Plank, edited book 2013] Alessandro Moschitti and Barbara Plank, *Machine Learning for Trustworthy Eternal Systems via Evolving Software, Data and Knowledge: EternalS'12*. CCIS proceedings Springer, 2013.

7. [Bibi et al., edited book 2012] Stamatia Bibi, Alessandro Moschitti, Barbara Plank and Ioannis Stamelos, *Joint workshop on Intelligent Methods for Software System Engineering: JIMSE'12* held in conjunction with the European Conference on Artificial Intelligence (ECAI 2012), Montpellier, France 2012.

6. [Pradhan et al, edited book 2012], Sameer Pradhan, Alessandro Moschitti, Nianwen Xue. *The CoNLL-2012 Shared Task: Modeling Multilingual Unrestricted Coreference in OntoNotes*, Joint Conference on EMNLP and CoNLL - Shared Task, 2012, Jeju Island, Korea, Association for Computational Linguistics, 1–137.

5. [Moschitti and Scandariato, edited book 2011] Alessandro Moschitti and Riccardo Scandariato, *The First Workshop on Trustworthy Eternal Systems via Evolving Software, Data and Knowledge: EternalS'11*, Budapest, Hungary: Proceedings of CCIS Springer, 2011.

4. [Matveeva et al., edited book 2011], Irina Matveeva, Alessandro Moschitti, Lluis Marquez and Fabio Massimo Zanzotto, *Graph-based Methods for Natural Language Processing*, proceedings of the *TextGraphs* workshop held with the 49th International Conference of the Association for Computational Linguistics, Portland, USA, 2011.

3. [Banea et al., edited book 2010], Carmen Banea, Alessandro Moschitti, Swapna Somasundaran and Fabio Massimo Zanzotto, *Graph-based Methods for Natural Language Processing*, proceedings of the *TextGraphs* workshop held with the 48th International Conference of the Association for Computational Linguistics, Uppsala, Sweden, 2010.

2. [Moschitti, ISOLA 2010 – edited special session], Alessandro Moschitti, *Introduction to the EternalS Track: Trustworthy Eternal Systems via Evolving Software, Data and Knowledge*. In Proceedings of the 4th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation. Springer Verlag, 2010.

1. [Basili and Moschitti, edited book 2006], Roberto Basili and Alessandro Moschitti, *Learning Structured Information in Natural Language Applications*, proceedings of the workshop held with the eleventh International Conference on European Association for Computational Linguistics, Trento, Italia, 2006.

8.3   Miscellaneous

6. [Moschitti, SIGIR 2013] Alessandro Moschitti: *Kernel-based Learning to Rank with Syntactic and Semantic Structures.* SIGIR (tutorial notes), 2013.

5. [Màrquez and Moschitti], Llúis Màrquez and Alessandro Moschitti, *Special issue on Statistical Learning of Natural Language Structured Input and Output*, Natural Language Engineering, Volume 18, Special Issue 02, April 2012, pp 147-153 DOI: `http://dx.doi.org/10.1017/S135132491200006X`, Published online: 14 March 2012, Cambridge University Press.

4. [Moschitti, ACL 2012] Alessandro Moschitti: State-of-the-Art Kernels for Natural Language Processing. ACL (tutorial notes), 2012.

3. [Moschitti, Coling 2010], Alessandro Moschitti, *Kernel Engineering for Fast and Easy Design of Natural Language Applications.* International Conference of Computational Linguistics (COLING 2010), tutorial notes. China, Beijing, 2010 (very similar to the Interspeech tutorial notes).

2. [Moschitti, CL2011] Alessandro Moschitti, Book Review: *Semantic Role Labeling* by Martha Palmer, Daniel Gildea, and Nianwen Xue, Morgan & Claypool (Synthesis Lectures on Human Language Technologies, edited by Graeme Hirst, volume 6), 2010, ISBN 978-1-59829-831-4. Computational Linguistics 37: 619-622, 2011. (Book Review)

1. [Moschitti, PhD-Thesis 2003], Alessandro Moschitti, *Natural Language Processing and Text Categorization: a study on the reciprocal beneficial interactions.* PhD thesis, University of Rome *Tor Vergata,* Rome, Italy, 2003.

8.4   Journals

(Journal Impact Factor, **JIF**, available for some journals)

19. [Severyn et al, IPM 2015], Aliaksei Severyn, Alessandro Moschitti, Olga Uryupina, and Barbara Plank. Multilingual opinion mining on YouTube. Information Processing and Management, 2015. **JIF: 1.469**

18. [Dupplaw et al, IJMIR 2014], David Dupplaw, Michael Matthews, Richard Johansson, Giulia Boato, Andrea Costanzo, Marco Fontani, Enrico Minack, Elena Demidova, Roi Blanco, Thomas Griffiths, Paul Lewis, Jonathon Hare, Alessandro Moschitti, *Information extraction from multimedia web documents: an open-source platform and testbed.* International Journal of Multimedia Information Retrieval, 1-15. Springer.

17. [Semeraro et al, IAJ 2013], Giovanni Semeraro, Pierpaolo Basile, Roberto Basili, Marco
de Gemmis, Chiara Ghidini, Maurizio Lenzerini, Pasquale Lops, Alessandro Moschitti,
Cataldo Musto, Fedelucio Narducci, Arianna Pipitone, Roberto Pirrone, Piero Poc-
cianti, Luciano Serafini. *Semantic Technologies for Industry: from Knowledge Mod-
eling and Integration to Intelligent Applications.* Intelligenza Artificiale, Volume 7,
Number 2 / 2013.

16. [Johansson and Moschitti, CLJ 2013] Richard Johansson and Alessandro Moschitti,
Relational Features in Fine-grained Opinion Analysis, Computational Linguistics, Vol-
ume 39, Issue 3, 2013.
JIF: 1.696 – Class 1 VQR

15. [Nguyen and Moschitti, IAJ 2013] Vien Nguyen and Alessandro Moschitti, *Structural
Reranking Models for Named Entity Recognition*, Special issue on Natural Language
Processing in the Web Era, Intelligenza Artificiale, IOS Press, Volume 6.2, 2012.

14. [Severyn and Moschitti, DMK 2012] Aliaksei Severyn, Alessandro Moschitti: *Fast Sup-
port Vector Machines for Convolution Tree Kernels.* Data Mining Knowledge Discovery
25: 325-357, 2012.
JIF: 1.545 – Class 1 VQR

13. [Dinarelli et al. IEEE-TASL 2011] Marco Dinarelli, Alessandro Moschitti, and Giuseppe
Riccardi. *Discriminative Reranking for Spoken Language Understanding.* IEEE Trans-
action on Audio, Speech and Language Processing, 2011.10.1109/ TASL.2012 .2093520.
JIF: 1.782. (not in VQR but it is equivalent to IEEE Transaction on Speech and Lan-
guage Processing)

12. [Moschitti and Quarteroni, IPMJ 2011], Alessandro Moschitti and Silvia Quarteroni,
Linguistic Kernels for Answer Re-ranking in Question Answering Systems, Information
and Processing Management: an International journal, ELSEVIER, 2011.
JIF: 1.673 - Class 1 VQR

11. [Zanzotto et al, FIJ 2011], Fabio Massimo Zanzotto, Lorenzo Dell'Arciprete, and
Alessandro Moschitti, *Efficient Graph Kernels for Textual Entailment Recognition.*
Published by the European Association for Theoretical Computer Science, EATCS.
Fundamenta Informaticae Journal.
JIF: 0.471 – Class 2 VQR

10. [Giannone et al, IJDAR 2010], Cristina Giannone, Roberto Basili, Paolo Naggar and
Alessandro Moschitti, *Supervised Semantic Relation Mining from Linguistically Noisy
Text Documents*, International Journal on Document Analysis and Recognition (IJ-
DAR), 2010. DOI 10.1007/s10032-010-0138-0
JIF: 1.03 – Class 1 VQR

9. [Hahn et al., IEEE-TASL 2011] S. Hahn, M. Dinarelli, C. Raymond, F. Lefevre,   P.
Lehnen, R. De Mori, A. Moschitti, H. Ney, G. Riccardi, *Comparing Stochastic Ap-
proaches to Spoken Language Understanding in Multiple Languages*, IEEE Transaction

on Audio, Speech and Language Processing, ISSN: 1558-7916, Digital Object Identifier: 10.1109/TASL.2010.2093520
JIF: 1.782. (not in VQR but it is equivalent to IEEE Transaction on Speech and Language Processing VQR 1)

8. [Moschitti et al, CLJ 2008], Alessandro Moschitti, Daniele Pighin and Roberto Basili. *Tree Kernels for Semantic Role Labeling,* Special Issue on Semantic Role Labeling, Computational Linguistics Journal. 2008.
   JIF: 2.656 – Class 1 VQR

7. [Zanzotto et al, NLE 2009], Fabio Massimo Zanzotto, Marco Pennacchiotti and Alessandro Moschitti*, A Machine Learning Approach to Textual Entailment Recognition,* Special Issue on Textual Entailment Recognition, Natural Language Engineering, Cambridge University Press, 2009.
   JIF: 0.432 – Class 2 VQR

6. [Basili et al., AAIJ 2006], Roberto Basili, Alessandro Moschitti and Maria Teresa Pazienza, *Extensive evaluation of efficient NLP-driven text classification.* In Applied Artificial Intelligence Journal in July 2006.
   JIF: 0.616 – Class 2 VQR

5. [Basili et al., JDIM 2006], Roberto Basili, Marco Cammisa, Emanuale Donati and Alessandro Moschitti, *Semantic indexing and hyperlinking of multimedia news: the RitroveRAI System*, in Journal of Digital Information Management, 2006.

4. [Basili et al., INFORMATICA 2006] Roberto Basili, Marco Cammisa and Alessandro Moschitti, *A Semantic Kernel to classify texts with very few training examples*, in Informatica, an international journal of Computing and Informatics, 2006.

3. [Basili et al., IEEE 2003], Roberto Basili, Alessandro Moschitti, Maria Teresa Pazienza and Fabio Massimo Zanzotto, *Personalizing Web publishing via information extraction.* Special Issue on Advances in Natural Language Processing, IEEE Intelligent System, IEEE Computer Society, Junuary/Febraury 2003.
   JIF: 2.56 – Class 1 VQR

2. [Basili and Moschitti, IJAIT 2002], Roberto Basili and Alessandro Moschitti, *Intelligent NLP-Driven Text Classification.* International Journal on Artificial Intelligence Tools, World Scientific publishing, Vol. 11, No. 3, September 2002.
   JIF:0.453 – Class 4 VQR

1. [Moschitti, NNW 2000], Alessandro Moschitti, *A novel neural approximation technique for integer formulation of the asymmetric traveling salesman problem.* International Journal on Neural Network and Mass-Parallel Computing and Information Systems, ICS editor, Vol. 10, 653-664, 2000.
   JIF:0.381 – Class 4 VQR

8.5   Top-Tier Conferences

(They are also classified A/A* in the Core Conference Portal – http://103.1.187.206/core)

Year 2015

93. [Tymoshenko and Moschitti, CIKM 2015], Kateryna Tymoshenko, Alessandro Moschitti: Assessing the Impact of Syntactic and Semantic Structures for Answer Passages Reranking. In Proceedings of The 24th ACM International Conference on Information and Knowledge Management (CIKM 2015): 1451-1460, Melbourne, Australia, Oct. 19-23, 2015. Best Paper Award.

92. [Joty et al., EMNLP 2015], Shafiq Joty, Alberto Barrn-Cedeo, Giovanni Da San Martino, Simone Filice, Alessandro Moschitti, Llus Mrquez and Preslav Nakov. Global Thread-level Inference for Comment Classification in Community Question Answering. In Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP 2015), Lisbon, Portugal. September 2015.

91. [Severyn and Moschitti, SIGIR 2015], Aliaksei Severyn, Alessandro Moschitti: Learning to Rank Short Text Pairs with Convolutional Deep Neural Networks. The 38th Annual ACM SIGIR Conference (SIGIR 2015): 373-382, Santiago, Chile, August 9-13, 2015.

90. [Severyn and Moschitti, SIGIR-short 2015], Aliaksei Severyn, Alessandro Moschitti: Twitter Sentiment Analysis with Deep Convolutional Neural Networks. The 38th Annual ACM SIGIR Conference (SIGIR 2015): 959-962, Santiago, Chile, August 9-13, 2015.

89. [Barlacchi et al., ACL 2015], Gianni Barlacchi, Massimo Nicosia, Alessandro Moschitti: SACRY: Syntax-based Automatic Crossword puzzle Resolution sYstem. Association for Computational Linguistics and The Asian Federation of Natural Language Processing (System Demonstrations) (ACL-IJCNLP): 79-84, Beijing, China, July 26-29, 2015.

88. [Severyn et al., ACL 2015], Aliaksei Severyn, Massimo Nicosia, Gianni Barlacchi, Alessandro Moschitti: Distributional Neural Networks for Automatic Resolution of Crossword Puzzles. Association for Computational Linguistics and The Asian Federation of Natural Language Processing (ACL-IJCNLP) 2015: 199-204, Beijing, China, July 26-29, 2015

87. [Barrn-Cedeo et al., ACL 2015], Alberto Barrn-Cedeo, Simone Filice, Giovanni Da San Martino, Shafiq Joty, Llus Mrquez, Preslav Nakov, Alessandro Moschitti. Thread-Level Information for Comment Classification in Community Question Answering. In Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing of the Asian Federation of Natural Language Processing (ACL-IJCNLP 2015), Beijing, China, July 2015.

86. [Filice et al., ACL 2015], Simone Filice, Giovanni Da San Martino, Alessandro Moschitti. Structural Representations for learning relations between pairs of texts. Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing of the Asian Federation of Natural Language Processing (ACL-IJCNLP 2015), Beijing, China, July 2015.

85. [Uryupina and Moschitti, *SEM 2015], Olga Uryupina and Alessandro Moschitti. A state-of-the-art mention-pair model for coreference resolution. In proceedings of the Fourth Joint Conference on Lexical and Computational Semantics (*SEM). Association for Computational Linguistics. Denver, Colorado, June 2015.

84. [Lei et al., NAACL 2015], Tao Lei, Yuan Zhang, Llus Mrquez, Alessandro Moschitti, Regina Barzilay. High-Order Low-Rank Tensors for Semantic Role Labeling. Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics Human Language Technologies (NAACL HLT), 1150-1160, Denver, Colorado, USA, May 31 to June 5, 2015.

83. [Severyn and Moschitti, NAACL 2015], Aliaksei Severyn, Alessandro Moschitti. On the Automatic Learning of Sentiment Lexicons. Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics Human Language Technologies (NAACL HLT), 1397-1402, Denver, Colorado, USA, May 31 to June 5, 2015.

82. [Nicosia et al., ECIR 2015], Massimo Nicosia, Gianni Barlacchi, Alessandro Moschitti: Learning to Rank Aggregated Answers for Crossword Puzzles. Proceedings of the 37th European Conference on Information Retrieval (ECIR): 556-561, Vienna, Austria, Mar 29- Apr 2, 2015.

Year 2014

81. [Joty and Moschitti, EMNLP 2014], Shafiq Joty and Alessandro Moschitti, *Discriminative Reranking of Discourse Parses Using Tree Kernels.* In proceedings of EMNLP 2014.

80. [Guzman et al., EMNLP 2014], Francisco Guzmán, Shafiq Joty, Lluìs Màrquez, Alessandro Moschitti, Preslav Nakov and Massimo Nicosia, *Learning to Differentiate Good from Bad Translations.* In proceedings of EMNLP 2014.

79. [Saleh et al., EMNLP 2014], Iman Saleh, Alessandro Moschitti, Preslav Nakov, Lluìs Màrquez and Shafiq Joty, *Semantic Kernels for Semantic Parsing.* In proceedings of EMNLP 2014.

78. [Saleh et al., Coling 2014], Iman Saleh, Scott Cyphers, Jim Glass, Shafiq Joty, Lluìs Màrquez, Alessandro Moschitti and Preslav Nakov, *A Study of using Syntactic and Semantic Structures for Concept Segmentation and Labeling.* In proceedings of Coling 2014.

77. [Barlacchi et al., CoNLL 2014], Gianni Barlacchi, Massimo Nicosia, Alessandro Moschitti, *Learning to Rank Answer Candidates for Automatic Resolution of Crossword Puzzles*. In proceedings of CoNLL 2014.

76. [Severyn et al., SIGIR 2014], Aliaksei Severyn, Alessandro Moschitti, Manos Tsagkias, Richard Berendsen and Maarten de Rijke. *A Syntax-Aware Re-ranker for Microblog Retrieval*. In proceedings of SIGIR 2014 (short paper).

75. [Severyn et al., ACL 2014], Aliaksei Severyn, Alessandro Moschitti, Olga Uryupina, Barbara Plank, and Katja Filippova, *Opinion Mining on YouTube*. In proceedings of ACL 2014.

74. [Gonzalo et al., SMIR-SIGIR 2014], Julio Gonzalo, Hang Li, Alessandro Moschitti and Jun Xu, *Semantic Matching in Information Retrieval* (SMIR), workshop abstract. In proceedings of at SIGIR 2014.

73. [Tymoshenko et al., EACL 2014], Kateryna Tymoshenko, Alessandro Moschitti and Aliaksei Severyn. *Encoding Semantic Resources in Syntactic Structures for Passage Reranking*. In proceedings of the European Chapter of the Association for Computational Linguistics (EACL 2014), Gothenburg, Sweden, 2014.

Year 2013

72. [Severyn and Moschitti, EMNLP 2013], Aliaksei Severyn and Alessandro Moschitti, *Automatic Feature Engineering for Answer Selection and Extraction*. In proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP 2013), Seattle, Washington, USA. October, 2013.

71. [Severyn et al., ACL 2013], Aliaksei Severyn and Massimo Nicosia and Alessandro Moschitti. *Learning Semantic Textual Similarity with Structural Representations*. In proceedings of the Annual Meeting of the Association for Computational Linguistics (ACL 2013 - short paper), Sofia, Bulgaria, August 2013.

70. [Plank and Moschitti, ACL 2013], Barbara Plank and Alessandro Moschitti. *Embedding Semantic Similarity in Tree Kernels for Domain Adaptation of Relation Extraction*. In proceedings of the Annual Meeting of the Association for Computational Linguistics (ACL 2013), Sofia, Bulgaria, August 2013.

69. [Severyn et al., CIKM 2013], Aliaksei Severyn and Massimo Nicosia and Alessandro Moschitti. *Building Structures from Classifiers for Passage Reranking*. In proceedings of the Conference on Information and Knowledge Management, San Francisco, CA, US, CIKM 2013.

68. [Moschitti, SIGIR 2013], Alessandro Moschitti, *Kernel-based learning to rank with syntactic and semantic structures*. In proceedings of the 36th Annual ACM SIGIR Conference (tutorial). July 28 - August 1, 2013. Dublin, Ireland.

67. [Severyn and Moschitti, IJCAI 2013], Aliaksei Severyn and Alessandro Moschitti. *Fast Linearization of Tree Kernels over Large-Scale Data*. In proceedings of the 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013), Beijing, China, August 3-9, 2013.

66. [Severyn et al., CoNLL 2013], Aliaksei Severyn and Massimo Nicosia and Alessandro Moschitti. *Learning Adaptable Patterns for Passage Reranking*. In proceedings of the Seventeenth Conference on Computational Natural Language Learning (CoNLL 2013), Sofia, Bulgaria.

65. [Pradhan et al., CoNLL 2013], Sameer Pradhan, Alessandro Moschitti, Nianwen Xue, Hwee Tou Ng, Anders Bjorkelund, Olga Uryupina, Yuchen Zhang, Zhi Zhong. *Towards Robust Linguistic Analysis using OntoNotes*. In proceedings of the Seventeenth Conference on Computational Natural Language Learning (CoNLL 2013), Sofia, Bulgaria.

64. [Severyn et al., *SEM 2013], Aliaksei Severyn and Massimo Nicosia and Alessandro Moschitti. *iKernels-Core: Tree Kernel Learning for Textual Similarity*. In proceedings of the Second Joint Conference on Lexical and Computational Semantics (*SEM 2013), Shared Task of Semantic Textual Similarity (STS), Atlanta, USA.

63. [Moschitti et al., IJCNLP 2013], Alessandro Moschitti, Siddharth Patwardhan, Chris Welty. *Long-Distance Time-Event Relation Extraction*. In proceedings of The 6th International Joint Conference on Natural Language Processing (IJCNLP 2013), October 14-18, 2013, Nagoya, Japan.

62. [Uryupina and Moschitti, IJCNLP 2013], Olga Uryupina and Alessandro Moschitti. *Multilingual Mention Detection for Coreference Resolution*. In proceedings of The 6th International Joint Conference on Natural Language Processing (IJCNLP 2013), October 14-18, 2013, Nagoya, Japan.

61. [Ju et al., ECIR 2013], Qi Ju, Alessandro Moschitti, Richard Johansson, *Learning to Rank from Structures in Hierarchical Text Classification*. In proceeding of the 35th European Conference of Information Retrieval, Moscow, Russia, 24-27, March 2013.

60. [Ju and Moschitti, ECIR 2013], Qi Ju and Alessandro Moschitti, *Incremental Reranking for Hierarchical Text Classification*. In proceeding of the 35th European Conference of Information Retrieval (short paper), Moscow, Russia, 24-27, March 2013.

Year 2012

59. [Pradhan et al, CoNLL-shared task 2012], Sameer Pradhan, Alessandro Moschitti, Nianwen Xue, Olga Uryupina and Yuchen Zhang. *The CoNLL-2012 Shared Task: Modeling Multilingual Unrestricted Coreference in OntoNotes*. Proceedings of the CoNLL-2012 Shared Task: Modeling Multilingual Unrestricted Coreference in OntoNotes held in conjunction with the Joint Conference on EMNLP and CoNLL, 2012, Jeju Island, Korea, Association for Computational Linguistics, 1–40.

58. [Patwardhan et al, CIKM 2012] Siddharth Patwardhan, Branimir Boguraev, Apoorv Agarwal, Alessandro Moschitti, Jennifer Chu-Carroll, *Labeling by Landscaping: Classifying Tokens in Context by Pruning and Decorating Trees.* In Proceedings of the Conference on Information and Knowledge Management, Maui Hawaii, CIKM 2012.

57. [Severyn and Moschitti, SIGIR 2012] Aliaksei Severyn, Alessandro Moschitti: *Structural relationships for large-scale learning of answer re-ranking.* ACM SIGIR Special Interest Group on Information Retrieval, Portland, Oregon, US, 2012.

56. [Moschitti et al., ACL 2012] Alessandro Moschitti, Qi Ju, Richard Johansson: *Modeling Topic Dependencies in Hierarchical Text Categorization.* ACL 2012: 759-767

55. [Moschitti, ACL 2012] Alessandro Moschitti: *State-of-the-Art Kernels for Natural Language Processing.* ACL 2012 (tutorial abstract).

54. [Croce et al., ACL 2012] Danilo Croce, Alessandro Moschitti, Roberto Basili, Martha Palmer: *Verb Classification using Distributional Similarity in Syntactic and Semantic Structures.* ACL 2012: 263-272

53. [Uryupina et al, CoNLL-shared task 2012], Olga Uryupina, Alessandro Moschitti, and Massimo Poesio. *BART goes multilingual: The UniTN / Essex submission to the CoNLL-2012 Shared Task*, Proceedings of the CoNLL-2012 Shared Task: Joint Conference on EMNLP and CoNLL, 2012, Jeju Island, Korea, Association for Computational Linguistics, 122–128.

52. [Giordani and Moschitti, Coling 2012] Alessandra Giordani, Alessandro Moschitti, *Translating Questions to SQL Queries with Generative Parsers Discriminatively Reranked.* Proceedings of the 24rd International Conference on Computational Linguistics (Coling) – *Poster*, Bombai, Mumbai, India, 2012.

Year 2011

51. [Croce et al. CIKM 2011] Danilo Croce, Alessandro Moschitti, and Roberto Basili. *Semantic Convolution Kernels Over Dependency Trees.* In Proceeding of ACM 21th Conf. on Information and Knowledge Management (CIKM'11) - *Poster*, Glasgow, UK, 2011.

50. [Nguyen and Moschitti, IJCNLP 2011] Truc Vien T. Nguyen and Alessandro Moschitti. *Joint distant and direct supervision for relation extraction.* In Proceedings of The 5th International Joint Conference on Natural Language Processing, Chiang Mai, Thailand, November 2011, Association for Computational Linguistics.

49. [Severyn and Moschitti, ECML PKDD 2011] Aliaksei Severyn and Alessandro Moschitti. *Fast support vector machines for structural kernels.* In ECML-PKDD, 2011, Greece, 2011. Best Machine Learning Student Paper Award

48. [Croce et al., EMNLP 2011] Danilo Croce, Alessandro Moschitti, and Roberto Basili. *Structured lexical similarity via convolution kernels on dependency trees.* In Proceedings of the 2011 Conference on Empirical Methods in Natural Language Processing,

pages 1034–1046, Edinburgh, Scotland, UK., July 2011. Association for Computational Linguistics.

47. [Moschitti et al, EMNLP 2011] Alessandro Moschitti, Jennifer Chu-carroll, Siddharth Patwardhan, James Fan, and Giuseppe Riccardi. *Using syntactic and semantic structural kernels for classifying definition questions in Jeopardy!* In Proceedings of the 2011 Conference on Empirical Methods in Natural Language Processing, pages 712–724, Edinburgh, Scotland, UK., July 2011. Association for Computational Linguistics.

46. [Nguyen and Moschitti, ACL-HLT 2011] Truc Vien T. Nguyen and Alessandro Moschitti. *End-to-end relation extraction using distant supervision from external semantic repositories.* In Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies, pages 277–282, Portland, Oregon, USA, June 2011. Association for Computational Linguistics.

45. [Johansson and Moschitti, ACL-HLT 2011] Richard Johansson and Alessandro Moschitti. *Extracting opinion expressions and their polarities – exploration of pipelines and joint models.* In Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies, pages 101–106, Portland, Oregon, USA, June 2011. Association for Computational Linguistics.

Year 2010

44. [Severyn & Moschitti, ECML PKDD 2010], Aliaksei Severyn and Alessandro Moschitti, *Large-Scale Support Vector Learning with Structural Kernels*, In Proceedings of the 21th European Conference on Machine Learning (ECML-PKDD 2010), Barcelona, Spain, 2010.

43. [Mehdad et al., HLT-NAACL 2010], Yashar Mehdad, Alessandro Moschitti and Fabio Massimo Zanzotto. *Syntactic/Semantic Structures for Textual Entailment Recognition.* Human Language Technology - North American chapter of the Association for Computational Linguistics (HLT-NAACL), 2010, Los Angeles, California.

42. [Pighin & Moschitti, CoNLL 2010], Daniele Pighin and Alessandro Moschitti. *On Reverse Feature Engineering of Syntactic Tree Kernels.* In Proceedings of the 2010 Conference on Natural Language Learning, Uppsala, Sweden, July 2010. Association for Computational Linguistics.

41. [Johansson & Moschitti, CoNLL 2010], Richard Johansson and Alessandro Moschitti. *Syntactic and Semantic Structure for Opinion Expression Detection.* In Proceedings of the 2010 Conference on Natural Language Learning, Uppsala, Sweden, July 2010. Association for Computational Linguistics.

40. [Johansson & Moschitti, COLING 2010], Richard Johansson and Alessandro Moschitti, *Reranking Models in Fine-grained Opinion Analysis.* In proceedings of the 23rd International Conference on Computational Linguistics (COLING), August 2010, Beijing, China.

39. [Vien et al., COLING 2010], Thi Truc Vien Nguyen, Alessandro Moschitti and Giuseppe Riccardi. *Kernel-based Reranking for Entity Extraction.* In proceedings of the 23rd International Conference on Computational Linguistics (COLING), August 2010, Beijing, China.

Year 2009

38. [Moschitti, EACL 2009] Alessandro Moschitti. *Syntactic and semantic kernels for short text pair categorization.* In Proceedings of the 12th Conference of the European Chapter of the ACL (EACL 2009), pages 576–584, Athens, Greece, March 2009. Association for Computational Linguistics.

37. [Dinarelli et al., EACL 2009] Marco Dinarelli, Alessandro Moschitti, and Giuseppe Riccardi. *Re-ranking models for spoken language understanding.* In Proceedings of the 12th Conference of the European Chapter of the ACL (EACL 2009), pages 202–210, Athens, Greece, March 2009. Association for Computational Linguistics.

36. [Nguyen et al., EMNLP 2009] Truc-Vien Nguyen, Alessandro Moschitti, and Giuseppe Riccardi. *Convolution kernels on constituent, dependency and sequential structures for relation extraction.* In Proceedings of the Conference on Empirical Methods in Natural Language Processing, pages 1378–1387, Singapore, August 2009. Association for Computational Linguistics.

35. [Dinarelli et al., EMNLP 2009] Marco Dinarelli, Alessandro Moschitti, and Giuseppe Riccardi. *Re-ranking models based-on small training data for spoken language understanding.* In Proceedings of the Conference on Empirical Methods in Natural Language Processing, pages 1076–1085, Singapore, August 2009. Association for Computational Linguistics.

34. [Coppola et al., HLT-NAACL 2009], Bonaventura Coppola, Alessandro Moschitti, and Giuseppe Riccardi. *Shallow semantic parsing for spoken language understanding.* In Proceedings of Human Language Technologies: The 2009 Annual Conference of the North American Chapter of the Association for Computational Linguistics, Companion Volume: Short Papers, pages 85–88, Boulder, Colorado, June 2009. Association for Computational Linguistics.

33. [Pighin and Moschitti, EMNLP 2009], Daniele Pighin and Alessandro Moschitti. *Reverse engineering of tree kernel feature spaces.* In Proceedings of the 2009 Conference on Empirical Methods in Natural Language Processing, pages 111–120, Singapore, August 2009. Association for Computational Linguistics.

32. [Pighin and Moschitti, CoNLL 2009], Daniele Pighin and Alessandro Moschitti. *Efficient linearization of tree kernel functions.* In Proceedings of the Thirteenth Conference on Computational Natural Language Learning (CoNLL-2009), pages 30–38, Boulder, Colorado, June 2009. Association for Computational Linguistics.

31. [Giordani and Moschitti, ECML PKDD 2009], Alessandra Giordani and Alessandro Moschitti. *Syntactic Structural Kernels for Natural Language Interfaces to Databases.* In ECML/PKDD, pages 391–406, Bled, Slovenia, 2009.

30. [Dinarelli et al., Interspeech 2009], Marco Dinarelli, Alessandro Moschitti, and Giuseppe Riccardi. *Concept segmentation and labeling for conversational speech.* In Proceedings of the 10th Annual Conference of the International Speech Communication Association, Brighton, September 2009.

Year 2008

29. [Diab et al. ACL 2008], Mona Diab, Alessandro Moschitti, Daniele Pighin, *Semantic Role Labeling Systems for Arabic Language using Kernel Methods.* In proceedings of the 46th Conference of the Association for Computational Linguistics (ACL'08). Main Paper Section. Columbus, OH, USA, June 2008. FBK-IRST – HLT Production Price

28. [Moschitti and Quarteroni, ACL 2008], Alessandro Moschitti, Silvia Quarteroni, Kernels on Linguistic Structures for Answer Extraction. In proceedings of the 46th Conference of the Association for Computational Linguistics (ACL'08). Short Paper Section. Columbus, OH, USA, June 2008.

27. [Versley et al., ACL 2008], Yannick Versley, Simone Paolo Ponzetto, Massimo Poesio, Vladimir Eidelman, Alan Jern, Jason Smith, Xiaofeng Yang, Alessandro Moschitti, *BART: A Modular Toolkit for Coreference Resolution.* In Proceedings of the 46th Conference of the Association for Computational Linguistics (ACL'08), Demo Section. Columbus, OH, USA, June 2008.

26. [Moschitti, CIKM 2008], Alessandro Moschitti, *Kernel Methods, Syntax and Semantics for Relational Text Categorization.* In proceeding of ACM 17th Conference on Information and Knowledge Management (CIKM). Napa Valley, California, 2008.

25. [Versley et al., Coling 2008], Yannick Versley, Alessandro Moschitti, Massimo Poesio, Xiaofeng Yang, *Coreference Systems based on Kernels Methods.* In Proceedings of The 22nd International Conference on Computational Linguistics (Coling 08). Manchester, England, 2008.

24. [Coppola et al., ICDM 2008], Bonaventura Coppola, Alessandro Moschitti, and Daniele Pighin*, Generalized Framework for Syntax-based Relation Mining.* Accepted as a regular paper at the Eighth IEEE International Conference on Data Mining, Pisa, Italy, Dec. 15-19, 2008, IEEE Computer Society Press.

Year 2007

23. [Moschitti and Zanzotto, ICML 2007], Alessandro Moschitti and Fabio Massimo Zanzotto, *Fast and Effective Kernels for Relational Learning from Texts*, Proceedings of The 24th Annual International Conference on Machine Learning (ICML 2007).

22. [Moschitti et al., ACL 2007], Alessandro Moschitti, Silvia Quarteroni, Roberto Basili and Suresh Manandhar, *Exploiting Syntactic and Shallow Semantic Kernels for Question/Answer Classification*, Proceedings of the 45th Conference of the Association for Computational Linguistics (ACL), Prague, June 2007.

21. [Bloehdorn and Moschitti, ECIR 2007], Stephan Bloehdorn and Alessandro Moschitti, *Combined Syntactic and Semantic Kernels for Text Classification.* In the 29th European Conference on Information Retrieval (ECIR), April 2007, Rome, Italy. Lecture notes in Computer Science - Springer Verlag.

20. [Quarteroni et al., ECIR 2007], Silvia Quarteroni, Alessandro Moschitti, Suresh Manandhar and Roberto Basili. *Advanced Structural Representations for Question Classification and Answer Re-ranking.* In the 29th European Conference on Information Retrieval (ECIR), April 2007, Rome, Italy. Lecture notes in Computer Science - Springer Verlag.

19. [Bloehdorn and Moschitti, CIKM 2007], Stephan Bloehdorn, Alessandro Moschitti: Structure and semantics for expressive text kernels. In proceeding of ACM 16th Conference on Information and Knowledge Management (CIKM-short paper) 2007: 861-864, Portugal.

Year 2006

18. [Moschitti, ECML 2006], Alessandro Moschitti, *Efficient Convolution Kernels for Dependency and Constituent Syntactic Trees.* In Proceedings of the 17th European Conference on Machine Learning, Berlin, Germany, 2006.

17. [Aiolli et al., ICDM 2006], Fabio Aiolli, Giovanni Da San Martino, Alessandro Sperduti, and Alessandro Moschitti, *Fast On-line Kernel Learning for Trees*, International Conference on Data Mining (ICDM) 2006 (short paper).

16. [Bloehdorn et al., ICDM 2006], Stephan Bloehdorn, Roberto Basili, Marco Cammisa, Alessandro Moschitti, *Semantic Kernels for Text Classification based on Topological Measures of Feature Similarity.* In Proceedings of the 6th IEEE International Conference on Data Mining (ICDM 06), Hong Kong, 18-22 December 2006. (short paper).

15. [Zanzotto and Moschitti, COLING-ACL 2006], Fabio Massimo Zanzotto and Alessandro Moschitti, *Automatic learning of textual entailments with cross-pair similarities.* In Proceedings of the Joint 21st International Conference on Computational Linguistics and 44th Annual Meeting of the Association for Computational Linguistics (COLING-ACL), Sydney, Australia, 2006.

14. [Giuglea and Moschitti, COLING-ACL 2006], Ana-Maria Giuglea and Alessandro Moschitti, *Semantic Role Labeling via FrameNet, VerbNet and PropBank.* In Proceedings of the Joint 21st International Conference on Computational Linguistics and 44th Annual Meeting of the Association for Computational Linguistics (COLING-ACL), Sydney, Australia, 2006.

13. [Moschitti, EACL 2006], Alessandro Moschitti, *Making tree kernels practical for natural language learning.* In Proceedings of the Eleventh International Conference on European Association for Computational Linguistics, Trento, Italy, 2006.

12. [Moschitti et al., CoNLL 2006], Alessandro Moschitti, Daniele Pighin and Roberto Basili. *Semantic Role Labeling via Tree Kernel joint inference.* In Proceedings of the 10th Conference on Computational Natural Language Learning, New York, USA, 2006.

11. [Moschitti et al., ECAI 2006], Alessandro Moschitti, Bonaventura Coppola, Daniele Pighin and Roberto Basili, *Semantic Tree Kernels to classify Predicate Argument Structures.* In Proceedings of the 17th European Conference on Artificial Intelligence, Riva del Garda, Italy, 2006.

10. [Giuglea and Moschitti, ECAI 2006], Ana-Maria Giuglea and Alessandro Moschitti, *Shallow Semantic Parsing Based on FrameNet, VerbNet and PropBank.* In Proceedings of the 17th European Conference on Artificial Intelligence, Riva del Garda, Italy, 2006.

9. [Moschitti, HLT-NAACL 2006], Alessandro Moschitti, *Syntactic Kernels for Natural Language Learning: the Semantic Role Labeling Case.* Human Language Technology - North American chapter of the Association for Computational Linguistics (short paper), New York, USA, 2006.

Year 2005

8. [Basili et al., CoNLL 2005], Roberto Basili, Marco Cammisa and Alessandro Moschitti, *Effective use of Wordnet semantics via kernel-based learning.* In Proceedings of the 9th Conference on Computational Natural Language Learning (CoNLL 2005), Ann Arbor (MI), USA, 2005

7. [Moschitti et al., CoNLL 2005], Alessandro Moschitti, Ana-Maria Giuglea, Bonaventura Coppola and Roberto Basili. *Hierarchical Semantic Role Labeling.* In Proceedings of the 9th Conference on Computational Natural Language Learning (CoNLL 2005 shared task), Ann Arbor (MI), USA, 2005.

Year 2004

6. [Moschitti, ACL 2004], Alessandro Moschitti, *A study on Convolution Kernels for Shallow Semantic Parsing.* In proceedings of the 42-th Conference on Association for Computational Linguistics (ACL-2004), Barcelona, Spain, 2004.

5. [Moschitti and Bejan, CoNLL 2004], Alessandro Moschitti and Cosmin Adrian Bejan, *A Semantic Kernel for Predicate Argument Classification.* In proceedings of the Eighth Conference on Computational Natural Language Learning (CoNLL-2004), Boston, MA, USA, 2004.

4. [Moschitti and Basili, ECIR 2004], Alessandro Moschitti and Roberto Basili, *Complex Linguistic Features for Text Classification: a comprehensive study.* In proceedings of the 26th European Conference on Information Retrieval (ECIR 2004), Sunderland, U.K., 2004. Lecture notes in Computer Science - Springer Verlag.

Year 2003 and before

3. [Moschitti, ECIR 2003], Alessandro Moschitti, *A study on optimal parameter tuning for Rocchio text classifier.* In proceedings of the 25th European Conference on Information Retrieval (ECIR 2003), Pisa, Italy, 2003. Lecture notes in Computer Science - Springer Verlag.

2. [Basili et al., ECAI 2002], Roberto Basili, Alessandro Moschitti, Maria Teresa Pazienza, *Empirical Investigation of fast text categorization over linguistic features.* In proceedings of the 15th European Conference on Artificial Intelligence (ECAI 2002), Lyon, France, 2002.

1. [Basili et al., IJCAI 2001], Roberto Basili, Alessandro Moschitti and Maria Teresa Pazienza, *NLP-driven IR: Evaluating performance over a text classification task.* In proceedings of the 17th International Joint Conference of Artificial Intelligence (IJCAI 2001), Seattle, Washington, USA, 2001.

8.6 Book Chapters and Springer Publications

(not published in top-tier conferences)

21. [Croce et al., PARLI 2015], Danilo Croce, Roberto Basili, Alessandro Moschitti, Semantic Tree Kernels for Statistical Natural Language Learning, Harmonization and Development of Resources and Tools for Italian Natural Language Processing within the PARLI Project. Volume 589 of the series Studies in Computational Intelligence pp 93-113, Switzerland, January 2015.

20. [Giordani and Moschitti, NLDB 2012] Alessandra Giordani, Alessandro Moschitti: *Generating SQL Queries Using Natural Language Syntactic Dependencies and Metadata.* NLDB 2012: 164-170, Lecture Notes in Computer Science, Springer.

19. [Bennaceur et al, FMCO 2012] Amel Bennaceur, Richard Johansson, Alessandro Moschitti, Romina Spalazzese, Daniel Sykes, and Valérie Issarny. Automatic Service Categorization through Machine Learning in Emergent Middleware. In Proceedings of Software Technologies Concertation on Formal Methods for Components and Objects (FMCO).Turin, Italy, 2012. Lecture Notes in Computer Science, Springer.

18. [Bennaceur et al, ISOLA 2012] Amel Bennaceur, Valérie Issarny, Richard Johansson, Alessandro Moschitti, Daniel Sykes, and Romina Spalazzese. *Machine Learning for Automatic Classification of Web Service Interface Descriptions.* In ISoLA 2011 Workshops, Communications in Computer and Information Science (CCIS) 336, pp. 220–231, Heidelberg, 2012. Springer.

17. [Bennaceur et al, JIMSE 2012] Amel Bennaceur, Falk Howar, Valérie Issarny, Richard Johansson, Alessandro Moschitti, Romina Spalazzese, Bernhard Steffen, and Daniel Sykes. *Machine Learning for Emergent Middleware.* In Proceedings of the Joint workshop on Intelligent Methods for Software System Engineering (JIMSE) held in ECAI 2012. Montpellier, France, 2012. (The revised version published in *Trustworthy Eternal Systems via Evolving Software, Data and Knowledge.* Communications in Computer and Information Science (CCIS), Springer, Volume 379, 2013).

16. [Corazza et al, JIMSE 2012] Anna Corazza, Valerio Maggio, Sergio Di Martino, Alessandro Moschitti, Andrea Passerini, Fabrizio Silvestri and Giuseppe Scanniello, *Using Machine Learning and Information Retrieval Techniques to Improve Software Maintainability.* In Proceedings of the Joint workshop on Intelligent Methods for Software

System Engineering (JIMSE) held in ECAI 2012. Montpellier, France, 2012. *Trustworthy Eternal Systems via Evolving Software, Data and Knowledge.* Communications in Computer and Information Science (CCIS), Volume 379, 2013, Springer).

15. [Gander et al, JIMSE 2012] Matthias Gander, Michael Felderer, Basel Katt, Alessandro Moschitti and Ruth Breu, *Anomaly Detection in the Cloud: Detecting Security Incidents via Machine Learning.* In Proceedings of the Joint workshop on Intelligent Methods for Software System Engineering (JIMSE) held in ECAI 2012. Montpellier, France, 2012. (The revised version published in *Trustworthy Eternal Systems via Evolving Software, Data and Knowledge.* Communications in Computer and Information Science (CCIS), Volume 379, 2013, Springer).

14. [Giordani and Moschitti, JIMSE 2012] Alessandra Giordani and Alessandro Moschitti, *Automatic Generation and Reranking of SQL-Derived Answers to NL Questions.* In Proceedings of the Joint workshop on Intelligent Methods for Software System Engineering (JIMSE) held in ECAI 2012. Montpellier, France, 2012. (The revised version published in *Trustworthy Eternal Systems via Evolving Software, Data and Knowledge.* Communications in Computer and Information Science (CCIS) Volume 379, 2013, Springer).

13. [Basili et al, Evalita 2011] Roberto Basili, Diego De Cao, Alessandro Lenci, Alessandro Moschitti, and Giulia Venturi, *EvalIta 2011: the Frame Labeling over Italian Texts Task*, In Lecture Notes in Computer Science, 2012, Springer.

12. [Moschitti, SFM 2011] Alessandro Moschitti, *Kernel-Based Machines for Abstract and Easy Modeling of Automatic Learning.* In: Formal Methods for Eternal Networked Software Systems - 11th International School on Formal Methods for the Design of Computer, Communication and Software Systems, SFM 2011, pages 458-503, Bertinoro, Italy, June 2011. Advanced Lectures. Lecture Notes in Computer Science, Springer,.

11. [Bennaceur et al., EternalS 2011] Amel Bennaceur, Richard Johansson, Alessandro Moschitti, Romina Spalazzese, Daniel Sykes, Rachid Saadi, and Valerie Issarny. *Inferring affordances using learning techniques.* In The First Workshop on Trustworthy Eternal Systems via Evolving Software, Data and Knowledge: EternalS'11. In Communications in Computer and Information Science (CCIS), 2011, Springer.

10. [Severyn and Moschitti, EternalS 2011] Aliaksei Severyn and Alessandro Moschitti. *Large-scale learning with structural kernels for class-imbalanced datasets.* In First Workshop on Trustworthy Eternal Systems via Evolving Software, Data and Knowledge: EternalS'11. In Communications in Computer and Information Science (CCIS) Springer, 2011.

9. [Moschitti, ISOLA 2010], Alessandro Moschitti, *Introduction to the EternalS Track: Trustworthy Eternal Systems via Evolving Software, Data and Knowledge.* In Proceedings of the 4th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation. Lecture Notes in Computer Science. Springer Verlag, 2010.

8. [Moschitti, ISOLA 2010], Alessandro Moschitti, *LivingKnowledge: Kernel Methods for Relational Learning and Semantic Modeling.* In Proceedings of the 4th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation. Lecture Notes in Computer Science, 2010, Springer.

7. [Basili et al., 2009, Cicling 2009], Roberto Basili, Daniele Cao, Danilo Croce, Bonaventura Coppola, and Alessandro Moschitti. *Cross-Language Frame Semantics Transfer in Bilingual Corpora.* In Proceedings of the 10th International Conference on Computational Linguistics and Intelligent Text Processing, pages 332–345, Mexico, 2009. Lecture Notes in Computer Science, Springer. Best paper award.

6. [Giordani and Moschitti, NLDB 2009], Alessandra Giordani and Alessandro Moschitti. *Semantic Mapping between Natural Language Questions and SQL Queries via Syntactic Pairing.* In 14th International Conference on Applications of Natural Language to Information Systems, Saarbrücken, Advanced Lectures, Lecture Notes in Computer Science, Germany, 2009.

5. [Vien et al., AIxIA 2009], Thi Truc Vien Nguyen, Alessandro Moschitti and Giuseppe Riccardi, Conditional Random Fields: Discriminative Training over Statistical features for Named Entity Recognition in proceedings of XIth international conference of the Italian Association for Artificial Intelligence", p. 20-24, Reggio Emilia, Italy, December 9-12, 2009. Lecture Notes in Computer Science.

4. [Basili and Moschitti, 2008] Roberto Basili and Alessandro Moschitti, *Apprendimento Automatico.* In Instrumentum vocale: intelligenza artificiale e linguaggio; Bianchini F., Gliozzo A., Matteuzzi M. editors, Bononia University Press, 2008.

3. [Pighin and Moschitti, AIxIA 2007], Daniele Pighin and Alessandro Moschitti, *A Tree Kernel-based Shallow Semantic Parser for Thematic Role Extraction*, Proceeding of the Conference of Italian Association for Artificial Intelligence, Rome, Italy, 2007. Lecture notes in Computer Science - Springer Verlag.

2. [Cilia and Moschitti, AIxIA 2007], Elisa Cilia and Alessandro Moschitti, *Advanced Tree-based Kernels for Protein* Classification, Proceeding of the Conference of Italian Association for Artificial Intelligence, Rome, Italy, 2007. Lecture notes in Computer Science - Springer Verlag

1. [Basili et al., AIxIA 2001], Roberto Basili, Alessandro Moschitti and Maria Teresa Pazienza, *A hybrid approach to optimize feature selection process in text classification.* In proceedings of the 7th Conference of the Italian Association for Artificial Intelligence (AIxIA 2001), Bari 2001. Lecture notes in Computer Science - Springer Verlag.

8.7   Other Conferences

(non top-tier conferences, also classified either B or C)

25. [Bonadiman et. al, CLIC 2015], Daniele Bonadiman, Aliaksei Severyn, Alessandro Moschitti. Deep Neural Networks for Named Entity Recognition in Italian. Proceedings of The Italian Conference on Computational Linguistics (CLiC-it), Trento, Italy, December 3-4, 2015. Distinguished Young Researcher Award

24. [Barlacchi et al, 2014], Gianni Barlacchi, Massimo Nicosia and Alessandro Moschitti. A Retrieval Model for Automatic Resolution of Crossword Puzzles in Italian Language. In Proceedings of the First Italian Conference on Computational Linguistics (CLIC-it), to appear, 2014.

23. [Abad and Moschitti, 2014], Azad Abad, Alessandro Moschitti. Creating a standard for evaluating Distant Supervision for Relation Extraction. In Proceedings of the First Italian Conference on Computational Linguistics (CLIC-it), to appear, 2014.

22. [Haponchyk and Moschitti, 2014], Iryna Haponchyk and Alessandro Moschitti. Making Latent SVMstruct Practical for Coreference Resolution. In Proceedings of the First Italian Conference on Computational Linguistics (CLIC-it), to appear, 2014.

21. [Uryupina and Moschitti, 2014] Olga Uryupina and Alessandro Moschitti. Coreference resolution for Italian: Assessing the impact of linguistic components. In Proceedings of the First Italian Conference on Computational Linguistics (CLIC-it), to appear, 2014.

20. [Olga et al., LREC 2014], Olga Uryupina, Barbara Plank, Aliaksei Severyn, Agata Rotondi, and Alessandro Moschitti, *SenTube: A Corpus for Sentiment Analysis on YouTube Social Media*, In LREC 2014.

19. [Quarteroni & Moschitti, LREC 2010], Silvia Quarteroni, Alessandro Moschitti, *A Comprehensive Resource to Evaluate Complex Open Domain Question Answering*. Proceedings of the Seventh conference on International Language Resources and Evaluation (LREC), June 2010, Malta.

18. [Giordani & Moschitti, LREC 2010], Alessandra Giordani and Alessandro Moschitti, *Corpora for Automatically Learning to Map Natural Language Questions into SQL Queries*. Proceedings of the Seventh conference on International Language Resources and Evaluation (LREC), June 2010, Malta.

17. [Johansson & Moschitti, LREC 2010], Richard Johansson and Alessandro Moschitti, *A Flexible Representation of Heterogeneous Annotation Data*. Proceedings of the Seventh conference on International Language Resources and Evaluation (LREC 2010), June 2010, Malta.

16. [Coppola & Moschitti, LREC 2010], Bonaventura Coppola and Alessandro Moschitti, *A General Purpose FrameNet-based Shallow Semantic Parser*. Proceedings of the Seventh conference on International Language Resources and Evaluation (LREC 2010), June 2010, Malta.

15. [Dutta et al, NGDM 2009], Dutta, H., Waltz, D., Moschitti, A., Pighin, D., Gross, P., Monteleoni, C., Salleb-Aouissi, A., Boulanger, A., Pooleery, M., Anderson, R.: Estimating the Time Between Failures of Electrical Feeders in the New York Power Grid. In: Next Generation Data Mining Summit, NGDM 2009. Baltimore, MD (2009).

14. [Versley et al., LREC 2008], Yannick Versley, Simone Ponzetto, Massimo Poesio, Vladimir Eidelman, Alan Jern, Jason Smith, Xiaofeng Yang and Alessandro Moschitti, *BART: A Modular Toolkit for Coreference Resolution*, In Proceedings of the Conference on Language Resources and Evaluation, Marrakech, Marocco, 2008.

13. [Annesi et al., RIAO 2007], Paolo Annesi, Roberto Basili, Raffaele Gitto, Alessandro Moschitti, Riccardo Petitti, *Audio Feature Engineering for Automatic Music Genre Classification*, Proceedings of the 8th RIAO Conference (poster section), 2007, Pittsburgh, PA, USA.

12. [Diab and Moschitti, RANLP 2007] Mona Diab and Alessandro Moschitti. *Semantic Parsing for Modern Standard Arabic.* Recent Advances in Natural Language Processing (RANLP), Borovets, Bulgaria, 2007.

11. [Aiolli et al., CIDM 2007], Fabio Aiolli, Giovanni Da San Martino, Alessandro Sperduti, and Alessandro Moschitti, *Efficient Kernel-based Learning for Trees.* In the IEEE Symposium on Computational Intelligence and Data Mining (CIDM), Honolulu, Hawaii, 2007.

10. [Basili et al., SINCRONIE 2006], Roberto Basili, Alessandro Moschitti, and Marco Pennacchiotti, *Analisi e Annotazione Automatica dei Testi Letterari.* Book contribution: Cyberletteratura: tra mondi testuali e mondi virtuali. Edizioni Nuova Cultura, Italy, 2006.

9. [Bloehdorn et al., KDML 2006], Stephan Bloehdorn, Roberto Basili, Marco Cammisa, Alessandro Moschitti. *Designing Semantic Kernels as Implicit Superconcept Expansions*, Knowledge Discovery, Data Mining, and Machine Learning (KDML 2006) Track.

8. [Moschitti and Basili, LREC 2006], Alessandro Moschitti and Roberto Basili, *A Tree Kernel approach to Question and Answer Classification in Question Answering Systems.* In Proceedings of the Conference on Language Resources and Evaluation, Genova, Italy, 2006.

7. [Moschitti, ICTAI 2003], Alessandro Moschitti, *Answer filtering via Text Categorization in Question/Answering systems.* In proceedings of the fifteenth IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2003), Sacramento, California, 2003.

6. [Moschitti et al., FLAIRS 2003], Alessandro Moschitti, Paul Morarescu and Sanda Harabagiu, *Open Domain Information Extraction via Automatic Semantic Labeling.* In proceedings of the 2003 Special Track on Recent Advances in Natural Language at the 16th International FLAIRS Conference, St. Augustine, Florida, 2003.

5. [Basili and Moschitti, ICTAI 2001], Roberto Basili and Alessandro Moschitti, *A robust model for intelligent text classification.* In proceedings of the thirteenth IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2001), Dallas, Texas, 2001.

4. [Basili et al., TIA 2001], Roberto Basili, Alessandro Moschitti, Maria Teresa Pazienza and Fabio Massimo Zanzotto, *A contrastive approach to term extraction.* In proceedings of the Terminology and Artificial Intelligence Conference (TIA 2001), Nancy, France, 2001.

3. [Basili et al., TALN 2000], Roberto Basili, Alessandro Moschitti and Maria Teresa Pazienza, *Modeling terminological information in text classification.* In proceedings of the Conference on Le Traitment Automatique des Langues Naturelles (TALN 2000), EPFL, Lausanne, Swiss, 2000.

2. [Basili et al., RIAO 2000], Roberto Basili, Alessandro Moschitti and Maria Teresa Pazienza, *Language sensitive text classification.* In proceedings of 6th Conference on Content-Based Multimedia Information Access (RIAO 2000), Paris, France, 2000.

1. [Basili et al., JADT 2000], Roberto Basili, Alessandro Moschitti and Maria Teresa Pazienza, *Robust inference method for profile-based text Classification.* In proceedings of the 5th International Conference on Statistical Analysis of Textual Data (JADT 2000), Lausanne, Swiss, 2000.

8.8   Workshops in chronological order

(acceptance rate typically around 50%)

Year 2012-2015

39. [Abad and Moschitti, IIR 2015], Azad Abad, Alessandro Moschitti: Distant Supervision for Relation Extraction Using Tree Kernels. Proceedings of the 6th Italian Information Retrieval Workshop (IIR), Cagliari, Italy, May 25-26, 2015.

38. [Uva and Moschitti, IIR 2015], Antonio Uva, Alessandro Moschitti: Automatic Feature Engineering for Italian Question Answering Systems. Proceedings of the 6th Italian Information Retrieval Workshop (IIR), Cagliari, Italy, May 25-26, 2015.

37. [Moschitti, SMIR 2014], Moschitti, *Kernel Methods for Semantic Matching.* In proceedings of the SMIR workshop at SIGIR 2014 (talk abstract).

36. [Ju et al, IIR 2012] Qi Ju, Chiara Ravagni, Alessandro Moschitti, Giampiero Vaschetto: *Hierarchical Text Classification for Supporting Educational Programs.* IIR 2012: 18-25

35. [Duc-Tien et al, CBMI 2012] Duc-Tien Dang-Nguyen, Giulia Boato, Alessandro Moschitti, Francesco G. B. De Natale: *Supervised models for multimodal image retrieval based on visual, semantic and geographic information.* CBMI 2012: 1-5

Year 2011

34. [Qi et al. 2011, LSHTC 2011] Ju Qi, Richard Johansson, and Alessandro Moschitti. *Towards Using Reranking in Hierarchical Classification.* In Proceeding of Second Pascal Challenge on Large Scale Hierarchical Text Classification in conjunction with the ECML PKDD 11, Athens, Greece, 2011.

33. [Chowdhury et al. BioNLP 2011] Faisal Md. Chowdhury, Alberto Lavelli, and Alessandro Moschitti. *A study on dependency tree kernels for automatic extraction of protein-protein interaction.* In Proceedings of BioNLP 2011 Workshop, pages 124–133, Portland, Oregon, USA, June 2011. Association for Computational Linguistics.

Year 2009

32. [Giannone et al., AND 2009] Cristina Giannone, Roberto Basili, Chiara Del Vescovo, Paolo Naggar, and Alessandro Moschitti. *Kernel-based relation extraction from investigative data.* In Proceedings of The Third Workshop on Analytics for Noisy Unstructured Text Data, pages 93–100. ACM, 2009. Best student paper award.

31. [Johansson and Moschitti, AT4DL 2009] Richard Johansson and Alessandro Moschitti. *The LivingKnowledge Project: Exploring the Spectrum of Opinions over Time.* In Workshop on Advanced Technologies for Digital Libraries (AT4DL 2009), 2009.

30. [Dinarelli et al., SRSL 2009], Marco Dinarelli, Silvia Quarteroni, Sara Tonelli, Alessandro Moschitti, and Giuseppe Riccardi. *Annotating spoken dialogs: from speech segments to dialog acts and frame semantics.* In Proceedings of SRSL 2009, the 2nd Workshop on Semantic Representation of Spoken Language, pages 34–41, Athens, Greece, March 2009. Association for Computational Linguistics.

29. [Dutta et al, NGDM 2009], Dutta, H., Waltz, D., Moschitti, A., Pighin, D., Gross, P., Monteleoni, C., Salleb-Aouissi, A., Boulanger, A., Pooleery, M., Anderson, R.: Estimating the Time Between Failures of Electrical Feeders in the New York Power Grid. In: Next Generation Data Mining Summit, NGDM 2009. Baltimore, MD (2009).

Year 2008

28. [Moschitti and Zanzotto, TextGraphs 2008], Alessandro Moschitti and Fabio Massimo Zanzotto, *Encoding Tree Pair-based Graphs in Learning Algorithms: the Textual Entailment Recognition Case,* Proceedings of TextGraphs-3: Graph-based Algorithms for Natural Language Processing – Workshop held in Coling Coreference. Manchester, England 2008.

27. [Zanzotto et al., SKDOU 2008] Zanzotto F., Pennacchiotti M., Moschitti A., *Combining Semi-Unsupervised Acquisition of Corpora and Supervised Learning of Textual Entailment Rules.* In: Semantic Knowledge Discovery, Organization and Use, NSF, New York, USA, 2008.

26. [Zanzotto et al., TAC 2008] F.M. Zanzotto, M. Pennacchiotti, A. Moschitti, *PeMoZa submission to TAC 2008.* In Proceedings of the Text Analysis Conference (TAC 2008) Workshop-RTE-4 Track, Gaithersburg, Maryland US, 2008.

25. [Bisazza et al., SLT 2008], Arianna Bisazza, Marco Dinarelli, Silvia Quarteroni, Sara Tonelli, Alessandro Moschitti and Giuseppe Riccardi, "Semantic annotations for conversational speech: from speech transcriptions to predicate argument structures", in Proceedings of IEEE-SLT'08, Goa, India, December 2008.

24. [Coppola et al., SLT 2008], Bonaventura Coppola, Alessandro Moschitti, Sara Tonelli and Giuseppe Riccardi, "Automatic FrameNet-based annotation of Conversational Speech", in Proceedings of IEEE-SLT'08, Goa, India, December 2008.

23. [Dinarelli et al., SLT 2008], Marco Dinarelli, Alessandro Moschitti and Giuseppe Riccardi, "Joint Generative and Discriminative Models for Spoken Language Understanding", in Proceedings of IEEE-SLT'08, Goa, India, December 2008.

Year 2007

22. [Moschitti et al., ASRU 2007], Alessandro Moschitti, Giuseppe Riccardi, Christian Raymond, *Spoken Language Understanding with Kernels for Syntactic/Semantic Structures*, Proceedings of IEEE Automatic Speech Recognition and Understanding Workshop (ASRU2007), Kyoto, Japan, December 2007

21. [Diab et al., SemEval-18 2007], Mona T. Diab, Alessandro Moschitti, Daniele Pighin, *CUNIT: A Semantic Role Labeling System for Modern Standard Arabic*, Proceedings of the 4th International Workshop on Semantic Evaluation (SemEval-4), Arabic Semantic Labeling (held in conjunction with the 45th Conference of the Association for Computational Linguistics), Prague, June 2007.

20. [Pighin et al., SemEval-17 2007], Daniele Pighin, Alessandro Moschitti and Roberto Basili, *RTV: Tree Kernels for Thematic Role Classification*, Proceedings of the 4th International Workshop on Semantic Evaluation (SemEval-4), English Semantic Labeling (held in conjunction with the 45th Conference of the Association for Computational Linguistics), Prague, June 2007.

19. [Zanzotto et al., RTE 2007], Fabio Massimo Zanzotto, Marco Pennacchiotti and Alessandro Moschitti, *Shallow Semantics in Fast Textual Entailment Rule Learners*, In Proceedings of the Third Recognizing Textual Entailment Challenge (held in conjunction with the 45th Conference of the Association for Computational Linguistics), Prague, June 2007.

Year 2006

18. [Zanzotto and Moschitti, AVE 2006], Fabio Massimo Zanzotto and Alessandro Moschitti, *Experimenting a "General Purpose" Textual Entailment Learner in AVE,* Working Notes for the CLEF 2006 Workshop, 20-22 September, Alicante, Spain, 2006

17. [Cilia et al., MLG 2006], Elisa Cilia, Alessandro Moschitti, Sergio Amendola, and Roberto Basili, *Structured Kernels for Automatic Detection of Protein Active Sites.* In Proceedings of Mining and Learning with Graphs (MLG 2006), Workshop held with ECML/PKDD 2006, Berlin, Germany, 2006.

16. [Moschitti et al., MLG-B 2006], Alessandro Moschitti, Daniele Pighin, and Roberto Basili, *Tree Kernel Engineering for Proposition Re-ranking*, In Proceedings of Mining and Learning with Graphs (MLG 2006), Workshop held with ECML/PKDD 2006, Berlin, Germany, 2006.

15. [Zanzotto et al., RTE 2006], Fabio Massimo Zanzotto, Alessandro Moschitti, Marco Pennacchiotti and Maria Teresa Pazienza, *Learning textual entailment from examples.* In Proceedings of the Second Recognizing Textual Entailment Challenge, Venezia, Italy, 2006

14. [Zanzotto and Moschitti, TextGraphs 2006], Fabio Massimo Zanzotto and Alessandro Moschitti, *Similarity between Pairs of Co-indexed Trees for Textual Entailment Recognition.* In Proceedings of the TextGraphs workshop at Human Language Technology - North American chapter of the Association for Computational Linguistics, New York, USA, 2006.

13. [Giuglea and Moschitti, LSINLP 2006], Ana-Maria Giuglea and Alessandro Moschitti, *Towards Free-text Semantic Parsing: A Unified Framework Based on FrameNet, Verb-Net and PropBank.* In Proceedings of the Workshop on Learning Structured Information for Natural Language Applications, Eleventh International Conference on European Association for Computational Linguistics, Trento, Italy, 2006.

12. [Moschitti et al., LSINLP 2006], Alessandro Moschitti, Daniele Pighin and Roberto Basili, *Tree Kernel Engineering in Semantic Role Labeling Systems.* In Proceedings of the Workshop on Learning Structured Information for Natural Language Applications, Eleventh International Conference on European Association for Computational Linguistics, Trento, Italy, 2006.

Year 2005

11. [Basili et al., LWB 2005], Roberto Basili, Marco Cammisa and Alessandro Moschitti, *A Semantic Kernel to classify texts with very few training examples.* In Proceedings of the Workshop on Learning in Web Search, at the 22nd International Conference on Machine Learning (ICML 2005), Bonn, Germany, 2005.

10. [Moschitti et al., FE 2005], Alessandro Moschitti, Bonaventura Coppola, Daniele Pighin and Roberto Basili. *Engineering of Syntactic Features for Shallow Semantic Parsing.* In Proceedings of the ACL05 Workshop on Feature Engineering for Machine Learning in Natural Language Processing, Ann Arbor (MI), USA, 2005.

9. [Basili et al., CH 2005], Roberto Basili, Alice Di Stefano, Roberto Gigliucci, Alessandro Moschitti, and Marco Pennacchiotti, *Automatic Analysis and Annotation of Literary Texts.* In proceedings of the Workshop for Cultural Heritage within the 9th Conference of the Italian Association for Artificial Intelligence (AI*IA 2005), Milan 2005.

8. [Moschitti and Basili, DLA 2005], Alessandro Moschitti and Roberto Basili. *Verb subcategorization kernels for automatic semantic labeling.* In Proceedings of the ACL05 Workshop on Deep Lexical Acquisition, Ann Arbor (MI), USA, 2005.

Year 2004

7. [Giuglea and Moschitti, OKD 2004], Ana-Maria Giuglea and Alessandro Moschitti, *Knowledge Discovering using FrameNet, VerbNet and PropBank.* In proceedings of the Workshop on Ontology and Knowledge Discovering at ECML 2004, Pisa, Italy, 2004.

6. [Bejan et al., SenSeval 2004], Adrian Bejan, Alessandro Moschitti, Paul Morarescu, Gabriel Nicolae and Sanda Harabagiu, *Semantic Parsing Based on FrameNet.* In proceedings of the Third International Workshop on the Evaluation of Systems for the Semantic Analysis of Text, ACL 2004 workshop, Barcelona, Spain, 2004.

5. [Moschitti and Harabagiu, PQA 2004$_a$], Alessandro Moschitti and Sanda Harabagiu, *A Novel Approach to Focus Identification in Question/Answering Systems.* In proceedings of the Workshop on Pragmatics of Question Answering at HLT-NAACL 2004, Boston, MA, USA, 2004.

4. [Harabagiu et al., PQA 2004$_b$], Sanda Harabagiu, Steve Maiorano, Alessandro Moschitti and Cosmin Adrian Bejan, *Intentions, Implicatures and Processing of Complex Questions.* In proceedings of the Workshop on Pragmatics of Question Answering at HLT-NAACL 2004, Boston, MA, USA, 2004.

Year 2002

3. [Basili et al., EMMDL 2002], Roberto Basili, Alessandro Moschitti, Maria Teresa Pazienza and Fabio Massimo Zanzotto, *A Semantic driven approach to Hypertextual Authoring.* In proceedings of LREC02, Event Modeling for Multilingual Document Linking, Las Palmas, Canary Island, Spain, 2002.

2. [Moschitti and Zanzotto, ROMAND 2002], Alessandro Moschitti and Fabio Massimo Zanzotto, *A Robust summarization system to explain document categorization.* In proceedings of RObust Methods in Analysis of Natural language Data (ROMAND 2002), Frascati, Italy, 2002.

Year 1999

1. [Basili et al., MLIF 1999], Roberto Basili, Alessandro Moschitti and Maria Teresa Pazienza, *A text classifier based on linguistic processing.* In proceedings of the 9th International Joint Conference of Artificial Intelligence (IJCAI 1999), Workshop on Machine Learning for Information Filtering, Stockholm, Swedish, 1999.