Curriculum Vitae - Luigi Di Caro

Index

1. Long CV

1.1 Brief Track Record

Luigi Di Caro has a Master degree and a Ph.D. in Computer Science, and his main interests include Artificial Intelligence (AI), Computational Linguistics (CL), Data Mining (DM), Machine Learning (ML), Legal Informatics (LI) and related interdisciplinary interactions with Cognitive Sciences (CS) and social-impact applications.

He is a researcher from October 2014 at the Department of Computer Science of the University of Torino. Luigi Di Caro started working on DM techniques applied on text sources since his master thesis in 2007, then continued during his Ph.D, defending in 2011 the internationally supervised PhD thesis supervised by prof. Maria Luisa Sapino (University of Turin) and prof. Kasim Selcuk Candan (Arizona State University). Luigi Di Caro has proven a high level of independence since he started publishing almost all of his works (both in international journals and conferences) without the contribution of his supervisors once obtained the PhD title. In particular, he demonstrated a significant ability to extend his initial background on DM by autonomously deciding to touch several other topics and disciplines like the above-mentioned CL, LI, CS but also User Modeling (UM), Human-Computer Interaction (HCI), Content Recommendation (CR), Data Visualization (DV), Social Networks Analysis (SNA) and Social Media (SM), Bibliometric Analysis (BA), and Knowledge Representation (KR). This is evident by published papers in all these fields.

1.2 Scientific production.

Luigi Di Caro, in his only 6 years of research after the PhD program, has been author of a large number of papers in more than 10 different research areas, published in major international peer-reviewed workshops, conferences and journals such as Scientometrics (IF=2.084), Computer Standards and Interfaces (IF=1.268), JIIS (IF=1.0), TIST (IF=1.252), JLVC (IF=0.634), AI&LAW, EDBT, KDD, PKDD, PAKDD, ACL, ICAIL, JURIX, LREC. He has 44 papers listed on DBLP, (43 on Scopus), 39 of which were published after the PhD title without his supervisors. He has a H-Index of 11 on Google Scholar (8 on Scopus). His papers have 712 citations on Google Scholar (352 on Scopus). In the ACM Digital Library, he is author of the 2nd most downloaded research paper belonging to the University of Turin (out of 1,716 total papers). Luigi Di Caro co-organized a doctoral workshop on Artificial Intelligence for the 13th and 14th International Conference of the Italian Association for Artificial Intelligence (AI*IA) and currently two editions of the international workshop on Social Media World Sensors at the conferences HyperText (2015) and LREC (2016). He is reviewers papers for major conferences and journals in Data Mining and Computational Linguistics.

1.3 Research Collaborations.

Luigi Di Caro made several research experiences in both academic and business-oriented institutions abroad and in Italy. In 2007, he was visiting student at the Arizona State University, and in 2008 at TiLab (a research centre of Telecom Italia), on TV contents

classification and recommendation. In this experience, Luigi Di Caro has been able to produce a patent on a system for content classification (patent US 20110264699 A1). In 2009, he made an internship at Telefonica Research Madrid where he combined Data Mining approaches to User Modeling applications. Luigi Di Caro worked with more than 20 people both in the academic and in the business area, and from different countries like Italy, France, Spain, Luxembourg, and U.S.A.

1.4 Co-supervision of students.

Luigi Di Caro has been cooperating to the supervision of the following PhD students: Eniafe Festus Ayetiran, PhD student of Erasmus Mundus International Joint Doctorate in Law, Science and Technology, working on Word Sense Disambiguation; Llio Humphreys, PhD in Computer Science at the University of Luxembourg, working on Information Extraction in the legal domain; Adebayo John Kolawole, PhD student of Erasmus Mundus International Joint Doctorate in Law, Science and Technology, working on Deep Learning and Legal Informatics; Rohan Nanda, PhD student of Erasmus Mundus International Joint Doctorate in Law, Science and Technology, working on Semantic similarity of Legal Documents.

1.5 Technological Transfer.

Concerning technological transfer, besides the patent with TiLab, for the interest in the theory and software he developed, Luigi Di Caro has been invited to enter as partner in a spinoff of the University of Torino (Nomotika s.r.l.) specialized in research and development of information technology solutions for the daily work of legal practitioners. Luigi Di Caro developed several softwares like TMine, CoSeNa, ImmEx, D-Index, PhC, PdView6, and others for business institutions (TiLab, Telefonica Research, Nomotika s.r.l., Augeos s.p.a).

1.6 Research periods abroad.

2016, one month - Visiting researcher at Stanford University. Topics: Computational Linguistics, Legal-informatics.

2009, six months - Internship at Telefonica Research in Madrid, Spain. Topics: User Modeling, Interactive Query Systems, Data Visualization. Supervision: Alejandro Jaimes (currently senior researcher at Yahoo Research Barcelona).

2008, six months - Collaboration with TiLab (Telecom Italia Lab) on TV Content Classification and Recommendation, Text-based Enrichment of Domain Ontologies and Analysis of Contexts of Use with Fabrizio Antonelli (currently SKIL Lab director at Telecom Italia)

2007, four months - Visiting student at the Arizona State University, under the supervision of prof. K. Selcuk Candan (Arizona State University) and prof. Maria Luisa Sapino (University of Torino), working on Data Mining, Latent Semantic Analysis, and Ontology Learning.

1.7 Research Interests

Data Mining & Machine Learning

Topic Extraction and Topic Trend Analysis: In the first years of his career, Luigi Di Caro developed novel algorithms based on Vector Space Models and Latent Semantic Analysis to automatically extract structured knowledge from plain text. Moreover, he proposed several visualization techniques to explore topics evolution over time.

Text Classification: Luigi Di Caro built a sound background on Machine Learning techniques applied on textual data for automatic classification. He both created new algorithms and applied them on real cases (i.e., for Legal text).

Information Retrieval & Navigation : Within this field, Luigi Di Caro published several works touching different aspects. In particular, he put particular attention to alternative exploration strategies where users become aware of the content by directly browsing within it (orienteering).

Social Network Analysis and Social Media: Luigi Di Caro worked on textual data extracted from Twitter developing novel algorithms to extract and compose emerging topics, proposing novel approach to this research field based on the Aging Theory.

Content Reccomendation: In the business area, Luigi Di Caro worked on the project Dynamic TV (TiLab) on recommendation of TV contents. From a technical point of view, I collaborated in the development of the techniques for automatic classification of contents into ontology concepts. This work produced a Patent on the field.

Bibliometric Analysis: Luigi Di Caro's interests touched other Data Mining and Social Network-related research areas like the analysis of research products and the researchers' level of independence. As first contributor, he developed a new algorithm to find latent dependencies of authors within their research communities, as a tool for supporting standard quantity and quality factors like H-index.

Computational Linguistics

Distributional Semantics, i.e., NLP-based interaction with classic Data Mining approaches. In particular, he plans to integrate Web Semantic technologies into Vector Space Models to move from word-based systems towards semantic-based frameworks.

Ontology Learning : The automatic construction of ontologies has been the first research task faced by Luigi Di Caro in his Master Thesis. Since then, he started applying Natural Language Processing techniques to improve accuracy and to fit with domain-specific situations.

Named Entity Recognition: Luigi Di Caro won a national competition with the project KnowYouAll, i.e., a system for identifying and linking entities (people, organizations, locations, and topics) to support smart search in personal data.

Syntactic Parsing: One of the research challenge faced by Luigi Di Caro in his recent works is the integration of syntactic information into standard word-based approaches for Data Mining on text. In particular, he recently developed a novel technique to feed Support Vector Machines with syntactic knowledge for automatic ontology learning.

Word Sense Disambiguation: Luigi Di Caro is currently interested in new challenges related to the Word Sense Disambiguation task. In detail, he is studying techniques to automatically extract word senses based on the actual use of natural language.

Sentiment Analysis: Luigi Di Caro deeply studied this novel research area proposing new algorithms and new formalization schemes.

Legal Text Enrichment: Luigi Di Caro is also working on the task of text navigation and enhancement, in the legal domain. This problem has been both faced in research scenarios as well as for business solutions.

Interdisciplinary Integration of Data Mining, Data Visualization, User Modeling, Legal approaches Informatics, Human-Computer Interaction and Cognitive Science. Luigi Di Caro has published papers on more than 10 research areas, demonstrating his particular attention to interdisciplinary techniques and methodologies.

1.8 Projects

1.8.1 Projects Won and Coordinated.

SemBurst, Luigi Di Caro is the Principal Investigator of a research project of the call Compagnia San Paolo young researchers 2014. This project passed the first mid-term pass in October 2016 with successful results in terms of scientific production and the expected objectives.

EasyTown, The aim of the project (awarded by MIUR with a 900,000 euros grant) was to make available to the city a range of services by automatic techniques for news retrieval, administration procedure extraction, etc from Open Data, to facilitate citizen participation and awareness. The project sees Luigi Di Caro as co-Principal Investigator (with Andrea Violato, Silvano Colombo Tosatto, and Alan Perotti) and as research coordinator.

KnowYouAll, Luigi Di Caro was the Principal Investigator of a research project on Named Entity Recognition, that has been awarded by Telecom Italia in a national competition. This project produced techniques and software that are currently under integration into the TiLab research centre (for educational purposes).

1.8.2 Projects coordinated at Work-Package level.

MIREL, The MIREL project has the goal of creating an international and inter-sectorial network to define a formal framework and to develop tools for MIning and REasoning with Legal texts, with the aim of translating these legal texts into formal representations that can be used for querying norms, compliance checking, and decision support. Here is the call. Here is a description of the MIREL project.

BO-ECLI, This project aims at improve accessibility of case law by automatically extracting legal references expressed by the judge by way of textual citations using Information Extraction and Natural Language Processing technologies.

1.8.3 Projects participation.

EuCases is a collaborative Research Project supported by Seventh Framework Programme (FP7) funding. The project will develop a unique pan-European law and case law Linking Platform transforming multilingual legal open data into linked open data after semantic and structural analysis. ROLE: *Responsible of the automatic classification task in the EuCases platform.*

RVILP. Ordinary experience suggests that lexical competence, i.e. the ability to use words, includes both the ability to relate words to the external world as accessed through perception and the ability to relate words to other words in inferential tasks. This project is about a functional neuroimaging study of "'The Role Of Visual Imagery In Lexical Processing"' (RVILP). ROLE: *Development of computational models for correlation analysis of words in vector-based conceptual spaces.*

ITxLaw proposes a new methodology based on ontologies for connecting legal texts with normative meaning, taking into account the interpretation of the norms and their evolution. ROLE: *Development of computational solutions for automatic constructions of ontolo- gies and relative legal text classification.*

EU Legal Culture addresses the question "How a new European legal culture is being shaped in Europe?" to make lawyers and citizens more aware of the dynamics of European law and how they impact on their work and on their life. ROLE: *Development of network analysis technique for topic classification and intelligent data browsing.*

ICT4LAW is a large interdisciplinary research project involving several university departments and industry partners. The goal is to create novel services for citizens, enterprises, public administration and policy makers. ROLE: *Legal data analysis for classification of laws and automatic ontologies learning.*

ATLAS is a project that targets automatic translation from Italian to Italian Sign Language (LIS) of deaf people. The aim of the project is to create applications to improve inclusion of deaf people by providing contents in their language using virtual characters.

ROLE: *Application of Data Mining standard techniques to support syntactic parsing in the translation process.*

DynamicTV. The project consists of a system to classify and recommend TV contents based domain ontologies and texts. In fact, large text corpora, like newspapers archives, used to contain dynamic data from a cultural and a linguistics point of view. Domain ontologies, on the other hand, represent a static and domain-expert knowledge. The project aimed at bridging the gap between these different sources of information for improving content classification and recommendation. ROLE: Application of Data Mining techniques for automatic content clustering, classification, and recommendation based on user profiles.

1.9 Awards

Luigi Di Caro won the prize 'Best Master Thesis in Information and Communication Technology' (involved regions : Piemonte, Valle d'Aosta, Liguria). Premio Zucca 2008, Italy.

Luigi Di Caro has been short-listed with a project about Question Answering in the national competion "'Working Capital 2011"' for innovative ideas. Only 12 out of 846 ICT projects have been selected up to this phase.

Luigi Di Caro has been awarded with one research grants in the national competition "'Working Capital 2012"' for innovative ideas (only 20 out of around 1000 presented projects have been selected). The tile of the project is "'KnowYouAll"', a cloud-based semantic search engine.

Luigi Di Caro has been awarded by MIUR (the national department of universities and research in Italy) in a national competition about innovative ideas called "'Smart Cities and Social Innovation and Community"' with the project 'EasyTown'.

Luigi Di Caro collaborated in the ICT project 'First Life', awarded by MIUR in a national competition about innovative ideas called "'Smart Cities and Social Innovation and Community"'.

Luigi Di Caro won the best paper award at the International Conference on Hybrid Intelligent System (HIS) 2016, with the paper titled "Text Segmentation With Topic Modeling And Entity Coherence".

1.10 Organized Workshops.

[Sideways 2017] Organizer of the 3rd International Workshop on Social Media World Sensors (Sideways), held in conjunction with HyperText 2017.

[Sideways 2016] Organizer of the 2nd International Workshop on Social Media World Sensors (Sideways), held in conjunction with LREC 2016.

[Sideways 2015] Organizer of the 1st International Workshop on Social Media World Sensors (Sideways), held in conjunction with HyperText 2015.

*[DC@AI*IA 2014]* Member of the organization of the AI*IA 2014 Doctoral Consortium in Artificial Intelligence, coordinated by Roberto Navigli.

[DWAI 2013] Co-chair of the First Doctoral Workshop in Artificial Intelligence (DWAI 2013), held in conjunction with the 13th International Conference of the Italian Association for Artificial Intelligence (AI*IA 2013).

1.10 Teaching

Luigi Di Caro formally started his teaching activity in 2015. He is currently in charge of the following courses:

[OS 2016, 2017] At the Department of Computer Science: Operative Systems (concurrent programming with UNIX, lab activity)

[IS 2015, 2016, 2017] At the Department of Economy and Statistics: Informative Systems (Conceptual and Logic notions of Databases and lab)

2 Recent Research Activity [from October 2014 to February 2017]

2.1 Current Research Collaborations

Luigi Di Caro is currently working on both Data Mining and Computational Linguistics fields. In particular, he is continuing past activities while also creating new collaborations. Here is a list of the active collaborations:

Prof. *Roberto Navigli, University Sapienza, Rome.* This collaboration started in 2016, when Luigi Di Caro has been invited by Roberto Navigli for discussing possible collaborations on topics related to common-sense semantic resources and knowledge representation classic research questions. This topic represents one of the work package in the SemBurst project (Progetto di Ateneo 2014) where Luigi Di Caro is responsible as Principal Investigator. This activity is being highly productive, and on February 6th Luigi Di Caro and Roberto Navigli submitted a research paper to EMNLP 2017 (one of the major Computational Linguistics conferences).

Dr. *Valeria De Paiva, Nuance Communications Inc.* In the context of the project MIREL, Luigi Di Caro met Valeria de Paiva at Stanford University in June 2016. They are currently working on the recent development of language and semantic technologies in the legal domain. This activity already produced a workshop paper on the topic, but is going to

be extended for future submissions. Luigi Di Caro will be visiting Nuance Communications Inc. again in September/October 2017.

Prof. Leon van der Torre, University of Luxembourg. In the context of the project MIREL, Luigi Di Caro is continuing working with prof. Leon van der Torre on topics related to legal informatics and integration of logic-based and statistical-based legal document representations.

Prof. Monica Palmirani, University of Bologna. In the context of the project BO-ECLI, Luigi Di Caro is currently responsible of an entire project task in collaboration with prof. Monica Palmirani, on the implementation of a tool for the identification of legal references in the Spanish language.

Dr. Mario Cataldi, University of Paris 8. This collaboration started several years ago, and it is now directed towards the creation of a research community social media mining, through the workshop series called Sideways, a way to see social media as social sensors where computational approaches may extract relevant semantic information from tweets and blogs offering a sideways to classic media information systems.

2.2 Current Projects

As previously mentioned, Luigi Di Caro is mainly working on three projects: MIREL (H2020), SemBurst (Progetto di Ateneo 2014), and BO-ECLI (Justice Programme of the EU).

2.3 Current and Future Plans.

2.3.1 Scientific Interests and Production

The main aim of dr. Luigi Di Caro is now to focus his research activity on the project SemBurst, where he is Principal Investigator. This project represents the basis of new collaborations (especially with prof. Roberto Navigli) that can be crucial for his scientific production in terms of quality and quantity of the chosen conferences and journals. Secondly, Luigi Di Caro is responsible of several project tasks and workshop organisations so he will continue working on these activities as done in recent years.

2.3.2 Co-supervision of Students

The aspect of co-supervising students will become extremely important in the activity of dr. Luigi Di Caro, as his current projects and collaborations need significant efforts in terms of scientific production and systems implementation.

Currently, Luigi Di Caro is the supervisor of dr. Giovanni Siragusa, who started his PhD programme at the Department of Computer Science in October 2016.

Luigi Di Caro is currently supervising two master theses on Computational Linguistics research (Valentina Leone and Andrea Minieri, who will graduate in 2017).

3 Publications

J=Journal P=Proceedings B=Book chapter

[2016]

[J] Ajani, G., Boella, G., Di Caro, L., Robaldo, L., Humphreys, L., Praduroux, S., Violato, A. (2016). The European Taxonomy Syllabus: A multi-lingual, multi-level ontology framework to untangle the web of European legal terminology. Applied Ontology, 11(4), 325–375.

[J] Boella, G., Caro, L. D., Humphreys, L., Robaldo, L., Rossi, P., & van der Torre, L. (2016). Eunomos, a legal document and knowledge management system for the Web to provide relevant, reliable and up-to-date information on the law. Artificial Intelligence and Law, 24(3). https://doi.org/10.1007/s10506-016-9184-3

[P] Cataldi, M., Di Caro, L., & Schifanella, C. (2016). Ranking researchers through collaboration pattern analysis. Machine Learning and Knowledge Discovery in Databases - European Conference, ECML PKDD 2016. https://doi.org/10.1007/978-3-319-46131-1_11

[P] Adebayo, K. J., Boella, G., & Di Caro, L. (2016). Text Segmentation with Topic Modeling and Entity Coherence. Proceedings of the 16th International Conference on Hybrid Intelligent Systems (HIS 2016): 175-185 [**Best paper award**]

[P] Adebayo, K. J., Boella, G., & Di Caro, L. (2016). Neural Reasoning For Legal Text Understanding. In Legal Knowledge and Information Systems: JURIX 2016: The Twenty-Ninth Annual Conference (Vol. 294, p. 175). IOS Press.

[P] Nanda, R. Di Caro, L. Boella, G. A Text Similarity Approach for Automated Transposition Detection of European Union Directives. In Legal Knowledge and Information Systems: JURIX 2016: The Twenty-Ninth Annual Conference (Vol. 294, p. 143). IOS Press.

[P] Di Caro, L. Boella, G. Automatic Enrichment of WordNet with Common-Sense Knowledge. In International Conference on Language Resources and Evaluation LREC 2016.

[P] Adebayo, K., Di Caro, L., Robaldo, L., & Boella, G. (2016). Textual Inference with Deep Learning Technique. In Proceedings of the 28th Annual Benelux Conference on Artificial Intelligence (BNAIC2016).

[P] Adebayo, K., Di Caro, L., & Boella, G. (2016). Normas at semeval-2016 task 1: Semsim: A multi-feature approach to semantic text similarity. Proceedings of SemEval, 718–725.

[P] Adebayo, K., Di Caro, L., & Boella, G. (2016). A Supervised KeyPhrase Extraction System. In Proceedings of the 12th International Conference on Semantic Systems (pp. 57–62). ACM.

[2015]

[P] Ayetiran, E. F., Boella, G., Di Caro, L., & Robaldo, L. (2015). Enhancing Word Sense Disambiguation Using a Hybrid Knowledge-Based Technique. In 11th International Workshop on Natural Language Processing and Cognitive Science (pp. 15–26). Degruyter, Berlin.

[P] Di Caro, L., Boella, G., Ruggeri, A., Cupi, L., Kolawole, J. A., & Robaldo, L. (2015). From a Lexical to a Semantic Distributional Hypothesis. Italian Conference on Computational Linguistics (CLiC-It).

[P] Humphreys, L., Santos, C., Di Caro, L., Boella, G., Van Der Torre, L., & Robaldo, L. (2015). Mapping recitals to normative provisions in EU legislation to assist legal interpretation. Frontiers in Artificial Intelligence and Applications (Vol. 279). https://doi.org/10.3233/978-1-61499-609-5-41

[P] Di Caro, L., & Boella, G. (2015). Semantic Similarity Reasoning. In International Workshop on Future and Emergent Trends in Language Technology (pp. 127–138). Springer International Publishing.

[P] Di Caro, L., Ruggeri, A., Cupi, L., & Boella, G. (2015). Common-sense knowledge for natural language understanding: Experiments in unsupervised and supervised settings. Advances in Artificial Intelligence - XIVth International Conference of the Italian Association for Artificial Intelligence (AI*IA). https://doi.org/10.1007/978-3-319-24309-2_18

[B] Cataldi, M., Di Caro, L., & Schifanella, C. (2015). Twitter as a personalizable information service. Multimedia Data Mining and Analytics: Disruptive Innovation. https://doi.org/10.1007/978-3-319-14998-1_3

[P] Ruggeri, A., Cupi, L., & Di Caro, L. (2015). Word Similarity Perception: an Explorative Analysis. In Proceedings of the EuroAsianPacific Joint Conference on Cognitive Science.

[P] Boella, G., Di Caro, L., Graziadei, M., Cupi, L., Salaroglio, C. E., Humphreys, L., … Stroetmann, V. (2015). Linking legal open data: Breaking the accessibility and language barrier in European legislation and case law. In Proceedings of the International Conference on Artificial Intelligence and Law (Vol. 08–12–June). https://doi.org/10.1145/2746090.2746106

[P] Humphreys, L., Boella, G., Robaldo, L., Di Caro, L., Cupi, L., Ghanavati, S., … van der Torre, L. (2015). Classifying and Extracting Elements of Norms for Ontology Population using Semantic Role Labelling. In The 15th International Conference on Artificial Intelligence & Law—San Diego, June 8-12, 2015.

[P] Di Caro, L., Cataldi, M., Lamolle, M., & Schifanella, C. (2015). It is not what but who you know: A time-sensitive collaboration impact measure of researchers in surrounding

communities. In WWW 2015 Companion - Proceedings of the 24th International Conference on World Wide Web. https://doi.org/10.1145/2740908.2742023

[2014]

[P] Cataldi, M., Lamolle, M., Caro, L. D., & Schifanella, C. (2014). Tell me who your friends are and I'll tell you who you are: Studying the evolution of collaborations in research environments. In ASONAM 2014 - Proceedings of the 2014 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining. https://doi.org/10.1109/ASONAM.2014.6921703

[P] Boella, G., Di Caro, L., Robaldo, L., & Violato, A. (2014). Network analysis to support navigation and use of ever-changing legislation. In CEUR Workshop Proceedings (Vol. 1105).

[P] Di Caro, L., & Boella, G. (2014). Mining meaning from text by harvesting frequent and diverse semantic itemsets. In CEUR Workshop Proceedings (Vol. 1202).

[B] Cataldi, M., Di Caro, L., & Schifanella, C. (2014). Improving search and navigation user experience by making use of social data. Harnessing the Power of Social Media and Web Analytics. https://doi.org/10.4018/978-1-4666-5194-4.ch010

[P] Boella, G., Di Caro, L., Violato, A., & Robaldo, L. (2014). Exploiting networks in Law. In International Conference on Language Resources and Evaluation (LREC).

[J] Boella, G., Caro, L. D., Ruggeri, A., & Robaldo, L. (2014). Learning from syntax generalizations for automatic semantic annotation. Journal of Intelligent Information Systems, 43(2). https://doi.org/10.1007/s10844-014-0320-9

[P] Di Caro, L., Robaldo, L., & Bersia, N. (2014). KnowNow: A serendipity-based educational tool for learning time-linked knowledge. Machine Learning and Knowledge Discovery in Databases - European Conference, ECML PKDD 2014. https://doi.org/10.1007/978-3-662-44845-8_30

[P] Ghanavati, S., Humphreys, L., Boella, G., Di Caro, L., Robaldo, L., & Van Der Torre, L. (2014). Compliance with multiple regulations. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) (Vol. 8824).

[2013]

[P] Boella, G., & Di Caro, L. (2013). Extracting definitions and hypernym relations relying on syntactic dependencies and support vector machines. In ACL 2013 - 51st Annual Meeting of the Association for Computational Linguistics, Proceedings of the Conference (Vol. 2).

[J] Cataldi, M., Caro, L. D., & Schifanella, C. (2013). Personalized emerging topic detection based on a term aging model. ACM Transactions on Intelligent Systems and Technology, 5(1). https://doi.org/10.1145/2542182.2542189

[J] Di Caro, L., & Grella, M. (2013). Sentiment analysis via dependency parsing. Computer Standards and Interfaces, 35(5). https://doi.org/10.1016/j.csi.2012.10.005

[J] Robaldo, L., & Di Caro, L. (2013). OpinionMining-ML. Computer Standards and Interfaces, 35(5). https://doi.org/10.1016/j.csi.2012.10.004

[P] Boella, G., & Di Caro, L. (2013). Supervised learning of syntactic contexts for uncovering definitions and extracting hypernym relations in text databases. Machine Learning and Knowledge Discovery in Databases - European Conference, ECML PKDD 2013. https://doi.org/10.1007/978-3-642-40991-2_5

[P] Boella, G., Di Caro, L., & Robaldo, L. (2013). Semantic relation extraction from legislative text using generalized syntactic dependencies and support vector machines. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) (Vol. 8035 LNCS). https://doi.org/10.1007/978-3-642-39617-5-20

[P] Boella, G., Di Caro, L., Rispoli, D., & Robaldo, L. (2013). A system for classifying multi-label text into EuroVoc. In Proceedings of the International Conference on Artificial Intelligence and Law. https://doi.org/10.1145/2514601.2514635

[P] Robaldo, L., Di Caro, L., & Antonini, A. (2013). SentiTagger - Automatically tagging text in OpinionMining-ML. In CEUR Workshop Proceedings (Vol. 1096).

[P] Ruggeri, A., & Di Caro, L. (2013). How affordances can rule the (computational) world. In CEUR Workshop Proceedings (Vol. 1100).

[P] Ruggeri, A., & Di Caro, L. (2013). Linguistic affordances: Making sense of word senses. In CEUR Workshop Proceedings (Vol. 1100).

[2012]

[J] Candan, K. S., Di Caro, L., & Sapino, M. L. (2012). PhC: Multiresolution visualization and exploration of text corpora with parallel hierarchical coordinates. ACM Transactions on Intelligent Systems and Technology, 3(2). https://doi.org/10.1145/2089094.2089098

[P] Boella, G., Di Caro, L., Lesmo, L., Rispoli, D., & Robaldo, L. (2012). Multi-label classification of legislative text into eurovoc. Frontiers in Artificial Intelligence and Applications (Vol. 250). https://doi.org/10.3233/978-1-61499-167-0-21

[P] Boella, G., Di Caro, L., Humphreys, L., Robaldo, L., & van der Torre, L. (2012). Nlp challenges for eunomos, a tool to build and manage legal knowledge. Language Resources and Evaluation (LREC), 3672–3678.

[P] Boella, G., Di Caro, L., Lesmo, L., & Rispoli, D. (2012). Multi-label Classification of Legislative Text into EuroVoc. In Legal Knowledge and Information Systems: JURIX 2012: the Twenty-fifth Annual Conference (Vol. 250, p. 21). IOS Press.

[P] Gianti, A., Bosco, C., Patti, V., Bolioli, A., & Di Caro, L. (2012). Annotating irony in a novel italian corpus for sentiment analysis. In Proceedings of the 4th Workshop on Corpora for Research on Emotion Sentiment and Social Signals (pp. 1–7).

[P] Schifanella, C., Di Caro, L., Cataldi, M., & Aufaure, M.-A. (2012). D-INDEX: A web environment for analyzing dependences among scientific collaborators. In Proceedings of the ACM SIGKDD International Conference on Knowledge Discovery and Data Mining. https://doi.org/10.1145/2339530.2339770

[J] Di Caro, L., Cataldi, M., & Schifanella, C. (2012). The d-index: Discovering dependences among scientific collaborators from their bibliographic data records. Scientometrics, 93(3). https://doi.org/10.1007/s11192-012-0762-1

[P] Boella, G., Di Caro, L., Humphreys, L., & Robaldo, L. (2012). Using legal ontology to improve classification in the eunomos legal document and knowledge management system. In Semantic Processing of Legal Texts Workshop (SPLeT 2012) at LREC.

[2011]

[P] Di Caro, L., Sapino, M. L., & Selçuk Candan, K. (2011). Unraveling multi-dimensional data using pDView. In ACM International Conference Proceeding Series. https://doi.org/10.1145/1951365.1951443

[P] Boella, G., Di Caro, L., & Humphreys, L. (2011). Using classification to support legal knowledge engineers in the eunomos legal document management system. In Fifth international workshop on Juris-informatics (JURISIN).

[J] Di Caro, L., Selçuk Candan, K., & Luisa Sapino, M. (2011). Navigating within news collections using tag-flakes. Journal of Visual Languages and Computing, 22(2). https://doi.org/10.1016/j.jvlc.2010.11.001

[P] Cataldi, M., Di Caro, L., & Schifanella, C. (2011). ImmEx: IMMersive text documents EXploration system. In Proceedings - International Workshop on Content-Based Multimedia Indexing. https://doi.org/10.1109/CBMI.2011.5972511

[2010]

[J] Cataldi, M., Schifanella, C., Candan, K. S., Sapino, M. L., & Di Caro, L. (2010). Context-informed Knowledge Extraction from Document Collections to Support User Navigation. JMPT, 1(2), 74–94.

[P] Di Caro, L., Frias-Martinez, V., & Frias-Martinez, E. (2010). Analyzing the role of dimension arrangement for data visualization in Radviz. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) (Vol. 6119 LNAI). https://doi.org/10.1007/978-3-642-13672-6_13

[P] Cataldi, M., Di Caro, L., & Schifanella, C. (2010). Emerging topic detection on Twitter based on temporal and social terms evaluation. In Proceedings of the 10th International Workshop on Multimedia Data Mining, MDMKDD '10. https://doi.org/10.1145/1814245.1814249

[2009]

[P] Di Caro, L., & Jaimes, A. (2009). ClusTR: Exploring multivariate cluster correlations and topic trends. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) (Vol. 5782 LNAI). https://doi.org/10.1007/978-3-642-04174-7_49

[P] Cataldi, M., Schifanella, C., Candan, K. S., Sapino, M. L., & Di Caro, L. (2009). CoSeNa: A context-based search and navigation system. In Proceedings of the International Conference on Management of Emergent Digital EcoSystems, MEDES '09. https://doi.org/10.1145/1643823.1643864

[2008]

[P] Candan, K. S., Di Caro, L., & Sapino, M. L. (2008). Creating tag hierarchies for effective navigation in social media. In International Conference on Information and Knowledge Management, Proceedings. https://doi.org/10.1145/1458583.1458597

[P] Di Caro, L., Candan, K. S., & Sapino, M. L. (2008). Using tagFlake for condensing navigable tag hierarchies from tag clouds. In Proceedings of the ACM SIGKDD International Conference on Knowledge Discovery and Data Mining. https://doi.org/10.1145/1401890.1402021