

Claudio Giuliano

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SHORT BIO

Claudio Giuliano leads the research unit Future Media at Fondazione Bruno Kessler, Trento Italy. He has been co-founder and CEO of Machine Linking S.r.l. He is interested in user profiling, semantics, sentiment, and emotional analysis on Social Media exploiting deep learning techniques. He has strong experience on exploiting Linked Open Data as source of background knowledge for natural language processing, information extraction, and word sense disambiguation applications. He worked as freelance consultant for companies in Italy, Israel, and North America. He has been involved and led several national and international projects, such as, HII - Smart Street Retail sponsored by EIT Digital, ITCH, sponsored by the Italian ministry of university and research, Copilosk, X-Media, Dot.Kom, and Cosyne, EU IST IP and STREP projects. He won the SemEval 2007 English lexical substitution task, several Senseval-3 lexical sample tasks, Evalita-2009 Entity Recognition and Detection tasks, and achieved competitive results on other evaluation exercises, such as, the relation extraction tasks at SemEval2007 and SemEval 2010, WEPS-2, and ACE-2008. He released various open source tools for information extraction from text (e.g., Ties, jSRE, thewikimachine, and airpedia).

EMPLOYMENT HISTORY

Jan 2015-present FBK, Head of Future Media Group, Trento, Italy

Dec 2012-Nov 2014 CEO of Machine Linking S.r.l.

Jan 2008-present FBK, Human Language Technologies Group, Trento, Italy - Research Fellow

Jen 2003-Dec 2007 ITC-irst, Cognitive and Communication Division, Trento, Italy - Research Consultant

May 1999-Dec 2002 ITC-irst, Cognitive and Communication Division, Trento, Italy - Software Engineer

RESEARCH INTERESTS

Social Media Analytics User Profiling, Sentiment and Emotional Analysis.

Natural Language Processing Information Extraction, Text Categorization, Word Sense Disambiguation, Textual and Lexical Entailment

Machine Learning Kernel methods for Natural Language Processing, supervised, semi-supervised, and unsupervised approaches, Argument-based Machine Learning

Semantic Web Exploiting the Semantic Web as background knowledge for NLP applications

Computational Lexicography Electronic Dictionaries and Corpus-based Monolingual and Multilingual Lexicography

RESEARCH PROJECTS

- 2015-present** Street Smart Retail - Street Smart Retail is a high impact initiative aiming at the creation of disruptive and scalable solutions for “blended retail.”
- 2012-2015** DIRHA Project - The project addresses the development of voice-enabled automated home environments based on distant-speech interaction in different languages.
- 2010-2011** CoSyne Project - Multi-Lingual Content Synchronization with Wikis
- 2008-2011** ITCH project - Intelligent technologies for cultural visits and mobile education is a joint project between Italy and Israel, sponsored by the Italian Ministry of University and Research and by the Autonomous Province of Trento.
- 2009-2011** COnTent Processing by Integrating Logical and Statistical Knowledge
- 2006-2010** Large Scale Knowledge Sharing and Reuse across Media (X-Media). A four-year multi-million euro integrated project funded by the European Union, X-Media addresses the issue of knowledge management in complex distributed environments (role: co-investigator)
- 2005-2006** From Text to Knowledge for the Semantic Web (Ontotext), FUP-2004 program, Ontotext exploits text processing and automatic reasoning technologies to extract knowledge from texts and organise it conceptually in an ontology (role: co-investigator)
- 2002-2004** Designing adaptive infOrmation exTRaction from text for KnOwledge Management (Dot.Kom), a STREP project funded by the European Union on use of information extraction from documents for knowledge management (role: co-investigator)
- 1999-2002** Trattamento automatico Ladino e Sardo (Tales), a regional project for developing a common interface to access multilingual dictionaries and corpora (role: software engineer)

RELEVANT EXPERIENCES

- January 2015** Became head of Future Media at Fondazione Bruno Kessler, a research unit that investigate and develop solutions for user profiling, semantics, sentiment, and emotional analysis on Social Media exploiting deep learning techniques.
- Winter 2012** Founded Machine Linking S.r.l., a Fondazione Bruno Kessler spinoff that developes semantic APIs for language recognition, keyword extraction, summarization, linking and enrichment based on Linked Open Data.
- Spring 2010** Participated at SemEval-2 Multi-Way Classification of Semantic Relations Between Pairs of Nominals task (second best performing system).
- Winter 2009** Designed and developed The Wiki Machine, a web application for word sense disambiguation based on Wikipedia.
- Fall 2009** Participated at Evalita 2009 Entity Recognition tasks, best performing system for Named Entity Recognition and Local Entity Detection and Recognition
- Winter 2008** Participated at the Second Web People Search Evaluation Workshop (fourth best performing system out of 16)
- Summer 2008** Participated at the Automatic Content Extraction 2008 Evaluation
- Summer 2007** Affiliated at the Exploiting Lexical & Encyclopedic Resources For Entity Disambiguation Summer Workshop at Johns Hopkins University working on Relation Extraction
- Spring 2007** Participated at the following tasks at the 4th International Workshop on Semantic Evaluation
- ◇ English Lexical Substitution Task (best performing system out of 9)

- ◇ Classification of Semantic Relations between Nominals (second best performing system out of 10)
- ◇ English Lexical Sample, SRL (best performing system out of 13)

2006-2007 Organizer of the HLT Seminars at FBK-irst

2006 Member of the Organizing and Program Committee of the EACL 2006 Workshop on Adaptive Text Extraction and Mining (ATEM)

Fall 2004 Participated at the Pascal Challenge on the Evaluation of Machine Learning for Information Extraction achieving competitive results

Spring 2004 Participated at the SENSEVAL-3 WSD competition developing the best performing system for the following tasks: English lexical sample (course grained evaluation), Italian lexical sample, Spanish lexical sample and Catalan lexical sample

SOFTWARE AND DEMOS

The Wiki Machine is an entity linking software

lexsub is an interactive web demo of the system used at the English Lexical Substitution Task

jLSI is an open source Java tool for Latent Semantic Indexing

jWeb1T is an open source Java tool for efficiently searching the Web 1T 5-gram corpus

jSRE is an open source Java tool for Relation Extraction

jInFil is an open source Java tool for Instance Filtering

jFlex is a Feature Extraction tool for Natural Language Processing applications based on machine learning techniques

Ties is an Adaptive Information Extraction system

jMorpho is an Java tool for Morphology

TEACHING AND INVITED LECTURES

Last 3 years Invited lecturer: “Un toolbox per la lessicografia ladina”, course of “Informatica Umanistica”, Università degli Studi di Trento

Spring 2003 Assistant Professor, Intelligenza Artificiale, Scienze e tecniche di Psicologia Cognitiva Applicata, Università degli Studi di Trento, Polo di Rovereto

February 2001 Invited lecturer “Trattamento automatico della lingua ladina”, Università degli Studi di Udine

October 2000 Invited lecturer “Trattamento automatico della lingua ladina”, Alpes Europa, Istitut Cultural Ladin ”Majon di Fascegn”, Vigo di Fassa

REVIEWING EXPERIENCE

I served as reviewer for: ACL, NAACL, EMNLP, ESWC, ECIR, etc.

EDUCATION

2002 University of Trento, 14th European Summer School in Logic, Language and Information

1999 University of Torino, Dept. of Computer Science, Laurea

1996 King’s College London, Erasmus Program

COMPUTER SKILLS

Programming languages Java (15 years experience); C, C++, perl (Basic Knowledge)

Web Programming XML, XSL, HTML, CSS, JScript, Java Servlets, JSP, SOAP, JSON

Operating Systems Mac OS X and Linux

Applications Apache, SVN, MySQL, eXist, R, L^AT_EX Git

Languages Italian (native language), fluent spoken/written English

Miscellaneous system administration in various UNIX flavors, software configuration management, excellent troubleshooting and debugging skills

PERSONAL DETAILS

Date of Birth 27 December 1972

Nationality Italian

Gender Male

Interests Visiting the world, listening to music, climbing, telemark skiing, mtb

REFERENCES

References are available upon request

PUBLICATIONS

A complete list of publications is available at <http://hlt.fbk.eu/en/people/giuliano/publications> or <http://scholar.google.it/citations?user=Ty62y4QAAAAJ&hl=en>.

SELECTED PUBLICATIONS

Sara Tonelli, Claudio Giuliano, and Kateryna Tymoshenko. “Wikipedia-based WSD for multilingual frame annotation.” *Artif. Intell.* **194**, 203–221 (2013).

Sara Tonelli, Volha Bryl, Claudio Giuliano, and Luciano Serafini. “Investigating the Semantics of Frame Elements.” *In EKAW*, pp. 130–143 (2012).

Volha Bryl, Claudio Giuliano, Luciano Serafini, and Kateryna Tymoshenko. “Supporting natural language processing with background knowledge: coreference resolution case.” *In Proceedings of the 9th International Semantic Web Conference (ISWC2010)* (Shanghi, China, 2010).

Claudio Giuliano, Alfio Gliozzo, and Carlo Strapparava. “Kernel Methods for Minimally Supervised WSD.” *Computational Linguistics* **35** (2009).

Claudio Giuliano and Alfio Gliozzo. “Instance-Based Ontology Population Exploiting Named-Entity Substitution.” *In Proceedings of the 22nd International Conference on Computational Linguistics (Coling 2008)*, pp. 265–272 (Manchester, UK, 2008).

Claudio Giuliano and Alfio Gliozzo. “Instance Based Lexical Entailment for Ontology Population.” *In Proceedings of the 2007 Joint Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning (EMNLP-CoNLL)*, pp. 248–256 (2007).

Claudio Giuliano, Alberto Lavelli, and Lorenza Romano. “Relation Extraction and the Influence of Automatic Named Entity Recognition.” *ACM Transactions on Speech and Language Processing* **5** (2007).

Claudio Giuliano, Alberto Lavelli, and Lorenza Romano. “Exploiting Shallow Linguistic Information for Relation Extraction from Biomedical Literature.” *In Proceedings of the Eleventh Conference of the European Chapter of the Association for Computational Linguistics (EACL-2006)* (Trento, Italy, 2006).

Alfio Massiliano Gliozzo, Claudio Giuliano, and Raffaella Rinaldi. “Instance Filtering for Entity Recognition.” *SIGKDD Explorations, Special Issue: Text Mining and Natural Language Processing* (2005).

Alfio Massimiliano Gliozzo, Claudio Giuliano, and Carlo Strapparava. “Domain Kernels for Word Sense Disambiguation.” *In Proceedings of the 43rd Annual Meeting of the Association for Computational Linguistics (ACL'05)*, pp. 403–410 (Ann Arbor, Michigan, 2005).

Claudio Giuliano. “A Tool-Box for Lexicographer.” *In Proceedings of the Tenth EURALEX Congress* (Denmark, Copenhagen, 2002).