

Smaranda Muresan
- CURRICULUM VITAE -

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RESEARCH INTERESTS

Natural Language Processing (computational models for language learning and understanding, machine translation), **Machine Learning** (text and data mining, relational learning), **Digital Libraries**

CURRENT POSITION

Assistant Professor, Library and Information Science Department, School of Communication and Information, Rutgers University, New Brunswick, NJ.
Co-Director of the Laboratory of the Study of Applied Language Technologies and Society (SALTS).

EDUCATION

1999 - 2006 Ph.D. in Computer Science
 Columbia University, New York, NY
 Dissertation: Learning Constraint-based Grammars from Representative Examples: Theory and Applications
 Advisors: Dr. Owen Rambow and Dr. Judith L. Klavans

 M.Sc. in Computer Science, *October 2002*
 Columbia University, New York, NY

1994-1999 B.Sc. in Computer Science and Engineering, *Cum Laude*
 Thesis: "Automatic Logic Program Generation using Mode-Direct Inverse Entailment"
 Technical University of Cluj-Napoca, Romania

PROFESSIONAL EMPLOYMENT

Fall, 2008 - Assistant Professor, Library and Information Science Department, School of Communication and Information, Rutgers University, New Brunswick, NJ.

- 2006 - 2008 Postdoctoral Research Associate, University of Maryland Institute for Advanced Computer Studies, College Park, MD (working with Philip Resnik)
- 1999 - 2006 Graduate Research Assistant, Department of Computer Science, Columbia University, New York, NY
- Summer 2000 Research Intern, Bell Labs, Lucent Technologies, Murray Hill, NJ
- 1997 - 1999 Undergraduate Research Assistant, Technical University of Cluj-Napoca, Romania

AWARDS

- 2004 AAAI/SIGART Doctoral Consortium Scholarship
- Spring 2001 Extraordinary Teaching Assistant Award
School of Engineering and Applied Sciences, Columbia University, New York, NY
- 1998-1999 Honor Fellowship
Faculty of Automation and Computer Science, Technical Univ. of Cluj-Napoca, Romania
- 1996 Mention (4th place) at the Undergraduate National Mathematics Olympiad, Romania
- 1994-1998 Merit Fellowship
Department of Computer Science, Technical University of Cluj-Napoca, Romania

PROFESSIONAL ACTIVITIES

- Co-organizer TextGraphs-4: Graph-based Methods for Natural Language Processing. Workshop at the Association for Computational Linguistics Conference (ACL/IJCNLP 2009)
- Co-Editor Special Issue on “Network-based Models of Cognitive and Social Dynamics of Language”. Computer Speech and Language Journal. (to appear 2010)
- Panelist ”What Its Like to Work at My Institution” Faculty Panel at ”Preparing Future Faculty Workshop” at Columbia University on April 16, 2010.
- Progr. Comm. ACL-HLT 2011, IJCAI 2011, Cicling 2011, The 6th Workshop on Innovative use of NLP for Building Educational Applications at ACL-HLT 2011, Sixth Workshop on Statistical Machine Translation WMT 2011, Workshop of Language in Social Media at ACL-HLT 2011, International Conference on Language Resources and Evaluation (LREC) 2010, ACL 2010 TextGraphs-5 Workshop, ACL 2010 Fifth Workshop on Statistical Machine Translation, NAACL-HLT 2009 Student Research Workshop, EACL 2009 Workshop on Statistical Machine Translation, AMTA 2008 Student Workshop, FLAIRS 2008 and 2009 Special Track on Applied Natural Language Processing, FLAIRS 2006 Trends in Natural Language Processing, DEECS 2006
- Reviewer Journals Information Retrieval, Dialogue and Discourse, ACM Transaction on Information Systems, Computational Intelligence
- Reviewer Conferences ACL-HTL (2011), NAACL-HLT (2010, 2009), COLING (2010, 2004), 23rd ACM Symposium on User Interface Software and Technology (UIST) 2010, EACL 2009, ACL 2008, AAAI 2006 “Member Posters” Track
- Reviewer Books *Dynamical Grammar: Minimalism, Acquisition and Change* by P. Culicover and A.

Nowak. <http://linguistlist.org/issues/15/15-2358.html#1>

PATENTS

2003 *System and Method of Generating Dictionary Entries*. Judith Klavans and Smaranda Muresan, Columbia University, New York, NY. Serial No 398,535.

CONTRACTS AND GRANTS AWARDED

external *Exploiting Alternative Packagings of Source Meaning in Statistical Machine Translation*, PI at Rutgers, on a subaward from UMD on an NSF SGER, September, 2008, \$45,500 (from total of \$144,763). My work is to use LWFGs induction to learn grammars for languages other than English with focus on both high and low resource languages. (current)

internal Rutgers Office of Research Grant to build the Laboratory for the Study of Applied Language Technologies and Society (SALTS) (\$112,000)

internal Rutgers School of Communication and Information “Grants to Get Grants” Award (2008-2009).

internal Rutgers University Research Council Grants (2009-2010)

INVITED TALKS

07/01/2010 *Learnable Constraint-based Grammars for Deep Language Understanding*. Educational Testing Services, Princeton, NJ.

05/27/2010 *Learnable Constraint-based Grammars for Deep Language Understanding*. IBM T.J. Watson Research Center

04/13/2010 *Learnable Constraint-based Grammars for Deep Language Understanding*. Yahoo Machine Learning Seminar, Department of Computer Science, Rutgers University.

10/29/2009 *Are those fighting words? The expression of opposition in online text* Ischool, Syracuse University.(together with Nina Wacholder).

08/05/2009 *National Language Processing at Rutgers* National University of Singapore.

10/02/2008 *A Computational Model for Language Learning and Understanding*. The Rutgers University Center for Cognitive Science, Rutgers University.

02/26/2008 *Learning Constraint-Based Grammars from Representative Data*. The Center for Language and Speech Processing, Johns Hopkins University.

03/01/2006 *Inducing Constraint-based Grammars using a Domain Ontology*. Computational Linguistics and Information Processing Laboratory (CLIP) at the University of Maryland Institute for Advanced Computer Studies (UMIACS).

10/22/2004 *Learning Constraint-based Grammars using a Small Semantic Treebank*. Computational Linguistics Group, Department of Computer Science, University of Toronto.

10/30/2000 *DEFINDER: Extracting Definitions of Medical Terms from On-line Articles* IBM Open House, Watson Research Center, Hawthorne, NY.

PUBLICATIONS

- Smaranda Muresan (2011). "Learning for Deep Language Understanding". *Proceedings of IJCAI 2011*.
- Roberto Gonzalez-Ibanez, Smaranda Muresan, Nina Wacholder (2011). "Identifying Sarcasm in Twitter: A Closer Look". *Proceedings of ACL-HTL 2011 (short paper)*.
- Smaranda Muresan (2010a). "Ontology-based Semantic Interpretation as Grammar Rule Constraints". *Lecture Notes in Computer Science volume of the 11th International Conference on Computational Linguistics and Intelligent Text Processing*.
- Smaranda Muresan (2010b). "A Learnable Constraint-based Grammar Formalism". *Proceedings of 23rd International Conference on Computational Linguistics (COLING) 2010*.
- Monojit Choudhury, Samer Hassan, Animesh Mukherjee, Smaranda Muresan. Introduction to the Special Issue on "Network-based Models of Cognitive and Social Dynamics of Language". *Computer Speech and Language Journal*. (editorial to appear)
- Philip Resnik, Chris Dyer, Smaranda Muresan (2010). "Lattice Decoding for Hierarchical Model". ", in Joe Olive, ed., *Handbook of Natural Language Processing and Machine Translation*, Springer (accepted 2009; published 2010).
- Smaranda Muresan (2008). "Learning to Map Text to Graph-based Meaning Representations via Grammar Induction". *Proceedings of the COLING 2008 Workshop TextGraphs-3: Graph-based Algorithms for Natural Language Processing*.
- Christopher Dyer, Smaranda Muresan and Philip Resnik (2008). "Generalizing Word Lattice Translation". *Proceedings of the Association for Computational Linguistics, ACL 2008*.
- Smaranda Muresan and Owen Rambow (2007). "Grammar Approximation by Representative Sublanguage: A New Model for Language Learning". *Proceedings of the Association for Computational Linguistics, ACL 2007*, Prague, Czech Republic.
- Smaranda Muresan (2004). "Inducing Constraint-based Grammars using a Domain Ontology". *Proceedings of the Ninth AAI/SIGART Doctoral Consortium*.
- Smaranda Muresan, Tudor Muresan, and Judith Klavans (2004). "Inducing Constraint-based Grammars from a Small Semantic Treebank". *AAAI Spring Symposium on Language Learning: An Interdisciplinary Perspective*, Stanford University.
- Smaranda Muresan, Samuel D. Popper, Peter T. Davis, and Judith L. Klavans (2003). "Building a Terminological Database from Heterogeneous Definitional Sources". *Proceedings of the National Conference on Digital Government Research*, Boston, Massachusetts.
- Smaranda Muresan and Judith L. Klavans (2002). "A Method for Automatically Building and Evaluating Dictionary Resources". *Proceedings of the Language Resources and Evaluation Conference (LREC 2002)*.
- Smaranda Muresan, Tudor Muresan, and Rodica Potolea (2002). "Data Flow Coherence Constraints for Pruning the Search Space in ILP Tools". *International Journal of Artificial Intelligence Tools*, volume 11(2), 2002.

Judith Klavans and Smaranda Muresan (2001). "Evaluation of DEFINDER: A System to Mine Definitions from Consumer-oriented Medical Text". *Proceedings of The ACM+IEEE Joint Conference on Digital Libraries (JCDL 2001)*.

Smaranda Muresan, Tudor Muresan, and Rodica Potolea (2001). "Data flow criteria in ILP tools". *Proceedings of IEEE 13th International Conference on Tools with Artificial Intelligence (ICTAI 2001)*.

Judith Klavans and Smaranda Muresan (2001). "Evaluation of the DEFINDER System for Fully Automatic Glossary Construction". *Proceedings of the American Medical Informatics Association Symposium (AMIA 2001)*.

Smaranda Muresan, Evelyne Tzoukermann, and Judith Klavans (2001). "Combining Linguistic and Machine Learning Techniques for Email Summarization". *Proceedings of the Conference on Natural Language Learning (CoNLL-2001), held as a Workshop at the 39th Annual meeting of the Association for Computational Linguistics (ACL-2001)*.

Noemie Elhadad, Min-Yen Kan, Simon Lok, Smaranda Muresan (2001). PERSIVAL: personalized summarization over multimedia health-care information. *In Proceedings of The First ACM+IEEE Joint Conference on Digital Libraries, JCDL 2001*. (demo presentation)

Judith Klavans and Smaranda Muresan (2000). "DEFINDER: Rule-based Methods for the Extraction of Medical Terminology and their Associated Definitions from On-line Text". *Proceedings of the American Medical Informatics Association Symposium (AMIA 2000)*.

Smaranda Muresan, Tudor Muresan, and Rodica Potolea (1999). "An Automatic Logic Program Generation Kernel". *Scientific Journal of Automation, Computers and Applied Mathematics (ACAM)*. Technical University of Cluj-Napoca, 8(1).

Tudor Muresan, Rodica Potolea, and Smaranda Muresan (1998). "Amalgamating CCP with Prolog". *Scientific Journal of Polytechnic University, Timisoara*, 43(4).

TECHNICAL REPORTS

Smaranda Muresan, Tudor Muresan, and Judith Klavans (2005). "Lexicalized Well-Founded Grammars: Learnability and Merging". *Technical Report CUCS-027-05, Columbia University, New York, NY*.

Smaranda Muresan (2005). "Parsing Preserving Techniques in Grammar Induction". *Technical Report CUCS-032-05, Columbia University, New York, NY*.

TEACHING EXPERIENCE

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|-------------|--|
| Spring 2011 | Database Design and Management, MLIS program, Rutgers University |
| Spring 2011 | Information Technologies for Libraries and Information Agencies, MLIS program, Rutgers University. |
| Fall 2010 | Information Technologies for Libraries and Information Agencies, MLIS program, Rutgers University. (section 2,3) |

Spring 2010	Language and Information . PhD-level class, School of Communication and Information, Rutgers University.
Spring 2010	Retrieving and Evaluating Electronic Information, undergraduate course, ITI Program, Rutgers University.
Fall 2009	Information Technologies for Libraries and Information Agencies, MLIS program, Rutgers University.
Fall 2009	Metadata for Information Professionals, MLIS program, Rutgers University.
Spring 2009	Language and Information . PhD-level class, School of Communication and Information, Rutgers University.
Fall 2008	Information Technologies for Libraries and Information Agencies, MLIS program, Rutgers University.
Spring 2007	Guest lecture on “Graph-based methods in IR and NLP”, part of the graduate course <i>Computational Linguistics II</i> , University of Maryland.
Fall 2006	Guest lectures on “Context-Free Grammars” and “Features and Unification”, part of the graduate course <i>Computational Linguistics I</i> , University of Maryland.
Spring 2001	Head Teaching Assistant, Columbia University, New York.

MENTORING

Roberto Gonzales-Ibanez (SC&I PhD Student)

Rohit Indukuri (M.Sc Student)

Jun Zhang (MLIS Student)

Jason Perry (CS PhD Student) [] Monica Babes Vroman (CS PhD Student)

PhD committee for Jeanette de Richemond (advisor Nick Belkin)

UNIVERSITY SERVICE

Fall 2010-	Planning committee for the MLIS Specialization on Informatics and Design Planning Committee, LIS Department, Rutgers University
Fall 2010	Organizer of the “Research Talks” of the Library and Information Science Department.
Spring 2009	Organizer of the “Research Talks” of the Library and Information Science Department.
Fall 2008 -	PhD Admission Committee, Library and Information Science Department, Rutgers University
Fall 2008 -	Research Committee, Library and Information Science Department, Rutgers University