

Raluca Budiu

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<http://budiu.info/raluca>

EDUCATION

- 2001 **Ph.D., Department of Computer Science, Carnegie Mellon University, Pittsburgh, PA**
Dissertation topic: The role of background knowledge in sentence processing. It described a computational model of language processing that accounted for data from psycholinguistics experiments involving memory, word priming, and literal/non-literal language processing.
- 1999 **Master of Science, Department of Computer Science, Carnegie Mellon University, Pittsburgh, PA**
- 1995 **Bachelor of Science, University "Politehnica", Bucharest, Romania**

EXPERIENCE

- 9/2008-now **Usability Specialist, Nielsen Norman Group.**
- 3/2008- 8/2008 **User Experience Researcher, Microsoft Corporation, Mountain View, CA.**
Excell Data (CompuCom) contractor in the MSN User Experience group. Performed heuristic evaluations of MSN.com pages. Conducted, designed, and analyzed usability studies on online video and social networking. Explored future directions and made strategic recommendations for incorporating user-generated content and social web features into MSN.
- 1/2008-3/2008 **Visiting Researcher, Intelligent Systems Laboratory, Palo Alto Research Center.**
- 2/2005-12/2007 **Postdoctoral Researcher, Intelligent Systems Laboratory, Palo Alto Research Center**
Worked on the following projects:
- **Memory for tagging:** Conducted and analyzed behavioral and eye tracking user studies that investigated how social tagging affects human information processing.
 - **Social bookmarking evaluation (SparTag.us):** Designed user studies and evaluated the usability of a new social bookmarking system; made suggestions for interface improvements.
 - **Corpus-based similarity metrics:** Analyzed and compared different corpus-based similarity techniques. Investigated creation of domain-specific corpora.
 - **Analysis of complex visualizations:** Analyzed behavioral and eye-tracking user data. Built computational models of complex visualizations (degree-of-interest trees); suggested interface improvements and general interface design principles. Developed statistical models to analyze mouse clicks and eye movements. Explored how information scent and graphical elements of the display interact with each other.
- 2001-2003 **Research Associate, Department of Psychology, Carnegie Mellon University**
Conducted the following projects:
- **Learning from instructions:** Designed, conducted, and analyzed user studies about how instruction language influences human performance in an editor setting. Built a computational model of the findings.
 - **Negation and metaphors:** Designed, conducted and analyzed user studies about how negation influences comprehension of non-literal language.
 - **Syntactic processing:** Designed, conducted and analyzed user studies about how background knowledge affects syntactic processing.

- 1996-2001 **Graduate Research Assistant, Department of Computer Science, Carnegie Mellon University**
Conducted the following projects:
- **Metaphor comprehension:** Designed, conducted and analyzed user studies about how people comprehend metaphors and about how metaphors get incorporated into language.
 - **Language learning:** Designed, conducted and analyzed user studies about learning new words. Built computational models of word learning and of second language learning.
 - **INP:** Created a computational model that addressed semantic and syntactic processing of literal and non-literal language.
- 1996, Spring **Graduate Research Assistant, University of Tampere, Finland.**
- 1994 **Part-time programmer, Val InfoNet, Bucharest, Romania**
Worked on database applications for accounting.
- 1995-1996 **Part-time Computer Science Teacher, Informatics High School, Bucharest, Romania**
- 1993, Spring **Undergraduate Research Assistant, University of Eindhoven, Netherlands**

SKILLS

Human-Computer Interaction	User studies (design, data analysis, statistical analysis), usability analysis, eye tracking studies, computational modelling of user interfaces, interface cost analysis, information scent
Cognitive science	Computational modelling of language, cognitive architectures (ACT-R), corpus-based analyses
Programming	Lisp, Perl; working experience with PHP, R, Java, JavaScript, Python, SQL, C, C++, Pascal
Communication	High level written, editorial and public speaking skills through teaching, numerous research papers and conference presentations Skilled at presenting complex material in a clear, concise, and persuasive manner, tailored for a range of audiences
Mentoring	Taught and mentored undergraduate and graduate students and interns, as well as technical staff
Project management	Effectively managed own time and ensured other team-members meet agreed objectives Conducted multiple projects simultaneously, set priorities, met deadlines, and provided direction to the work of junior researchers and research technicians Wrote proposals and white papers to ensure project funding

SELECTED PEER-REVIEWED PUBLICATIONS

- Conferences
- Lichan Hong, Ed Chi, Raluca Budiu, Peter Pirolli, Les Nelson (2008). *SparTag.us: A low cost tagging system for foraging of web content*. Proceedings of Advanced Visual Interfaces (AVI'08).
- Raluca Budiu, Peter Pirolli (2007). *Modeling navigation in degree-of-interest trees*. Proceedings of the 29th Annual Meeting of the Cognitive Science Conference.

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Raluca Budiu, Christiaan Royer, Peter Pirolli (2007). *Modeling Information Scents: A Comparison of LSA, PMI and GLSA Similarity Measures on Common Tests and Corpora*. Proceedings of RIAO'07.

Raluca Budiu, Peter Pirolli, Michael Fleetwood, Julie Heiser (2006). *Navigation in degree-of-interest trees*. Proceedings of the Advanced Visual Interfaces Conference (AVI'06).

Raluca Budiu, John R. Anderson (2005). *Negation in nonliteral sentences*. Proceedings of the 27th Annual Meeting of the Cognitive Science Society.

Raluca Budiu, John R. Anderson (2003). *Verification of sentences containing anaphoric metaphors*. Proceedings of the 5th International Conference on Cognitive Modeling.

Raluca Budiu, John R. Anderson (2000). *Integration of background knowledge in sentence processing: A unified theory of metaphor understanding, semantic illusions and text memory*. Proceedings of the 3rd International Conference on Cognitive Modeling.

Journals

Raluca Budiu, John R. Anderson (2004). *Interpretation-based processing: A unified theory of semantic sentence comprehension*. *Cognitive Science*, 28, pp. 1-44.

Raluca Budiu, John R. Anderson (2002). *Comprehending anaphoric metaphors*. *Memory & Cognition*, 30, pp. 158-165.

John R. Anderson, Raluca Budiu, Lynne M. Reder (2001). *A theory of sentence memory as part of a general theory of memory*. *Journal of Memory and Language*, 45, pp. 337-367.

Book Chapters

Raluca Budiu, John R. Anderson (2006). *Word learning in context: Metaphors and neologisms*. In Michel Vishnevsky (ed.). *Focus on Cognitive Psychology Research*, Nova Science Publishers, NY: Hauppauge. A preliminary version is available as Technical Report CMU-CS-01-147, School of Computer Science, Carnegie Mellon University.

PROFESSIONAL ACTIVITY

Reviewer

CHI, Cognitive Science Conference, ICCM Conference, Memory and Cognition, Psychonomic Bulletin and Review, Trends in Cognitive Science, IBM Systems Journal, KUI'07, International Journal of Human-Computer Studies

Member

Association of Computer Machinery (ACM)
Usability Professionals Association (UPA)
Human Factors and Ergonomics Society (HFES)

Program
Committee

First International Workshop on Knowledge-Based User Interface, KUI 2007

ADDITIONAL INFORMATION

Languages

English, Romanian (native), French

Immigration status

US resident, Romanian citizen