

## GHEORGHE MURESAN, Ph.D.

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### Professional Interests and Expertise

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- **Information Retrieval** (Personalization, Document Clustering, Language and Topic Modeling, Adaptive and Collaborative Systems, Mediated/Assisted IR, User Behavior in Information-Seeking Environments, User and Context Modeling), **Human-Computer Interaction** (IR User Interfaces and Information Visualization), **Cognitive Psychology** (Learning and Information Seeking Models), **Machine Learning, Data Mining**
- Object-Oriented Technology, Design Patterns, Software Frameworks, Agile Methodologies, UML, XML, Internet Protocols/Programming, Concurrent/Distributed Programming, Database Design; Java, C++, Python, R, SPSS

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### Work Experience

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#### 2002 – present      **Assistant Professor, Rutgers University, U.S.A.**

- Developed an integrated approach to Interaction Modeling and Log Analysis for Interactive Information Retrieval, based on combining UML and XML
- Developed and used an evaluation framework to compare the effectiveness of various Sources of Query Expansion Terms
- Developed and evaluated predictive models of Document Genre for Personalized Information Retrieval
- Investigated the effect of Document Readability, and of a Searcher's Familiarity with a Topic on Personalized Information Retrieval
- Led Rutgers research groups in Interactive and HARD tracks of TREC in 2003, 2004, 2005 (Published in proceedings of *TREC*); supervised 3 PhD dissertations in IR and many term-long research projects
- Led Mediated IR project, designed and built four user interfaces, designed and implemented the infrastructure software, designed and conducted user study; analysis of results in progress
- Developed a taxonomy on Measures for Web Search Effectiveness
- Compared the effectiveness between Humans and Machines in the Topic Distillation Task
- Developed courses and programs and taught *Information Retrieval*, *Computer Concepts*, *Object-Oriented Programming*, *Advanced Programming*, and *Information Technology Applications* to Ph.D., Master and Undergraduate students.

#### 2001      **Part-time Lecturer, The Robert Gordon University, U.K.**

- Taught *Computer Systems*, *Applications Software* and *Java Object-Oriented Programming* to undergraduates

#### 1996 – 2000      **Research/Teaching Assistant, The Robert Gordon University, U.K.**

- Designed, developed and evaluated *WebCluster* and *ClusterBook*, prototypes of a system that provides personalized, mediated access to relevant information on the World Wide Web
- Gave lectures and tutorials in *Object-Oriented Programming with C++* to M.Sc. and undergraduate students
- Designed and coded an Electronic Conferencing System and used it as support for tutoring *Design Patterns* and *Object-Oriented Databases* to M.Sc. students

#### 1994 – 1996      **System/Applications Programmer, The Robert Gordon University, U.K.**

- Administered the School Novell and Sun networks
- Installed and configured various software packages in support for teaching and research

#### 1994      **Teaching Assistant, University of Aberdeen, U.K.**

- Gave tutorials and lab practices in *Assembly Language Programming*, *Data Communication*, and *Data Structures*
- Designed and implemented demo projects for *Data Communication* and *Object-Oriented Analysis, Design & Programming*

#### 1992 – 1993      **Computer Engineer, Dacia-Felix Bank, Cluj-Napoca, Romania**

- Designed and implemented banking software and databases
- Implemented an IT strategy for the bank, its data communications and security
- Administered the computer network

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## Education

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### 1996 – 2002                    **Ph.D. in Computer Science, The Robert Gordon University, U.K.**

- Thesis: “Using Document Clustering and Language Modeling in Mediated Information Retrieval”
- Proposed and evaluated Mediated Access, a novel interaction model for Information Retrieval, based on Document Clustering and Statistical Language Models. **Sponsor:** Ubilab, UBS, Zurich.

### 1987 - 1992                    **Diploma of Computer Engineer, Technical University of Cluj, Romania**

- Grade 10/10 in diploma exam; GPA: 9.65/10 (2<sup>nd</sup> out of 80); 1<sup>st</sup> in the admission exam
- Thesis: “Deductive System with Multiple Resolution Strategies”

### 1982 - 1986                    **Baccalaureate - Mathematics and Computer Science, Computer Science High School "Tiberiu Popoviciu", Cluj-Napoca, Romania**

- Grade 9.62/10 in diploma exam; GPA: 8.99/10; 1<sup>st</sup> in the admission exam

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## Selected publications

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- G. Muresan and D. Roussinov (2006) Where Do Good Query Terms Come From?, ASIST 2006, Austin, TX.
- G. Muresan (2006) An Investigation of Query Expansion Terms, ASIST 2006, Austin, TX.
- G. Muresan (2006) Modeling Interactive Behavior with State Diagrams and Markov Models, 2006 Research Symposium of the ASIST-HCI, Austin, TX.
- G. Muresan (2006) An Integrated Approach to Interaction Modeling and Analysis for Exploratory Information Retrieval, SIGIR Workshop on Evaluating Exploratory Search Systems, Seattle, WA.
- G. Muresan, C. L. Smith, M. Cole, L. Liu, N.J. Belkin (2006) Detecting Document Genre for Personalization in Information Retrieval, HICSS-39, Kauai, HI.
- G. Muresan, M. Cole, C. L. Smith, L. Liu, N.J. Belkin (2006) Does Familiarity Breed Content ? Taking Account of Familiarity with a Topic in Personalizing Information Retrieval, HICSS-39, Kauai, HI.
- G. Muresan and D. J. Harper Topic Modelling for Mediated Access to Very Large Document Collections, JASIST 55 (10).
- M. Wu, G. Muresan, A. McLean, M.-C. Tang, R. Wilkinson, Y. Li, H.-J. Lee, N. J. Belkin (2004) Human Versus Machine in the Topic Distillation Task, SIGIR 2004, Sheffield, UK.
- G. Muresan and D. J. Harper (2001) Document Clustering and Language Models for System-Mediated Information Access, ECDL 2001, Darmstadt.
- G. Muresan, D. J. Harper, A. Goker and P. Lowit (2000) ClusterBook, a Tool for Dual Information Access, SIGIR 2000, Athens.
- G. Muresan, D. J. Harper and M. Mechkour (1999) WebCluster, a Tool for Mediated Information Access, SIGIR 1999, Berkeley, CA.

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## Awards and Grants

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2004-2007	Various Research Grant – Rutgers University, U.S.A.
2004	Research Development Initiative Grant – the Scottish Higher Education Funding Council, U.K.
1996-1997	PhD Studentship – the School of Computing, Robert Gordon University, U.K.
1991	Studentship for Course in Advanced Programming – Budapest Technical University, Hungary
1982-1992	Various awards at local and national level of student competitions (Olympiads) in Mathematics, Programming, Physics, Mechanics and French – Romania
1986	Third prize at the national level in the Romanian Student Symposium for the paper/demo "Computer Games – Strategy and Implementations" – Romania

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## Other

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**Languages:**                    Romanian (native), English (advanced), French (advanced)

**Immigration status:** U.S. permanent resident (British-Romanian dual citizenship)