

# Luiza Antonie

M.Sc., Ph.D.

## Education

- 2002-2008      Ph.D. in Computing Science, University of Alberta, Canada (GPA: 97.2%)  
Thesis: *Associative Classifiers: Improvements and Potential*  
Advisors: Dr. Osmar R. Zaiane, Dr. Robert Holte
- 2000-2002      M.Sc. in Computing Science, University of Alberta, Canada (GPA: 93.3%)  
Thesis: *Categorizing Digital Documents by Associating Content Features*  
Advisor: Dr. Osmar R. Zaiane
- 1995-2000      B.Sc. in Electrical Engineering and Computer Science (English Stream), Politehnica  
University of Bucharest, Romania  
Thesis: *Digital Mammography Classification*  
Advisor: Dr. Rodica Tuduce

## Research Interests

- Classification
- Data Mining: association rules and their applications
- Natural Language Processing
- Health Informatics

## Research Experience

- 2007-2008      *Research assistant*, under the supervision of Dr. Robert Holte and Dr. Osmar Zaiane, Department of Computing Sciences, University of Alberta, Canada.
- Jan-Aug 2004    *Research assistant*, Alberta Ingenuity Centre for Machine Learning, project "Brain Tumor Growth Prediction", head researcher Dr. Russ Greiner, Department of Computing Sciences, University of Alberta, Canada.
- 2001-2002      *Research assistant*, under the supervision of Dr. Osmar Zaiane, Department of Computing Sciences, University of Alberta, Canada.
- Apr-Jul 2000    *Research assistant*, under the supervision of Dr. A. Bezerianos, Department of Medical Physics, University of Patras, Greece
- 2002              Participated in KDD Cup 2002, contest associated with KDD 2002 (International Conference on Knowledge Discovery and Data Mining). Task to be researched and solved: "Yeast Gene Regulation Prediction". Ranked 6<sup>th</sup> out of 54 participating teams (ranked 1<sup>st</sup> among the Canadian teams). Team members: Maria-Luiza Antonie, Samer Nassar, Joerg Sander, Osmar Zaiane. I had a major role in researching and completing this task.

## Publications

### Book Chapters

- **Maria-Luiza Antonie**, David Chodos, Osmar R. Zaiane, *Variations on Associative Classifiers and Classification Results Analyses*, Post-Mining of Association Rules: Techniques for Effective Knowledge Extraction, 2009
- **Maria-Luiza Antonie**, Osmar R. Zaiane, Alexandru Coman, *Associative Classifiers for Medical Images*, Lecture Notes in Artificial Intelligence 2797, Mining Multimedia and Complex Data, pp 68-83, Springer-Verlag, 2003.

### Journals

- **Maria-Luiza Antonie**, Osmar R. Zaiane, Robert C. Holte, *Redundancy Reduction: Does It Help Associative Classifiers?*, submitted to Data Mining and Knowledge Discovery Journal, December 2008.

### International Conferences

- **Maria-Luiza Antonie**, Osmar R. Zaiane, Robert C. Holte, *Learning to Use a Learned Model: A Two-Stage Approach to Classification*, The Sixth IEEE International Conference on Data Mining (ICDM'06), Hong Kong, China, 18 - 22 December, 2006.
- Osmar R. Zaiane, **Maria-Luiza Antonie**, *On Pruning and Tuning Rules for Associative Classifiers*, Ninth International Conference on Knowledge-Based Intelligence Information & Engineering Systems (KES'05), pp 966-973, Melbourne, Australia, September 2005.
- Rafal Rak, Wojciech Stach, Osmar R. Zaiane, **Maria-Luiza Antonie**, *Considering Re-occurring Features in Associative Classifiers*, Ninth Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD'05), pp 240-248, Hanoi, Vietnam, May, 2005.
- **Maria-Luiza Antonie** and Osmar R. Zaiane, *Mining Positive and Negative Association Rules: An Approach for Confined Rules*, 8th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD 04), Springer Verlag LNCS 3202, pp 27-38, Pisa, Italy, September 20-24, 2004.
- **Maria-Luiza Antonie**, Osmar R. Zaiane, *Text Document Categorization by Term Association*, in Proc. of the IEEE International Conference on Data Mining (ICDM'2002), pp 19-26, Maebashi City, Japan, December 9 - 12, 2002
- Osmar R. Zaiane, **Maria-Luiza Antonie**, *Classifying Text Documents by Associating Terms with Text Categories*, in Proc. of the Thirteenth Australasian Database Conference (ADC'02), Melbourne, Australia, January 28-February 1, 2002

### Peer-reviewed workshops

- **Maria-Luiza Antonie** and Osmar R. Zaiane, *An Associative Classifier based on Positive and Negative Rules*, 9th ACM SIGMOD Workshop on Research Issues in Data Mining and Knowledge Discovery (DMKD-04), pp 64-69, Paris, France, June 2004.
- Osmar R. Zaiane, **Maria-Luiza Antonie**, Alexandru Coman, *Mammography Classification by an Association Rule-Based Classifier*, *Third Intl. ACM SIGKDD Workshop on Multimedia Data Mining (MDM/KDD'2002)* in conjunction with Eighth ACM SIGKDD, pp. 62-69, Edmonton, Alberta, Canada, 17-19 July 2002.
- **Maria-Luiza Antonie**, Osmar R. Zaiane, Alexandru Coman, *Application of Data Mining Techniques for Medical Image Classification*, in Proc. of Second Intl. Workshop on Multimedia Data Mining (MDM/KDD'2001) in conjunction with Seventh ACM SIGKDD, pp. 94-101, San Francisco, CA, August 26, 2001.

*Technical reports and posters*

- **Maria-Luiza Antonie**, Osmar R. Zaiane, Robert C. Holte, *Associative Classifiers: Improvements and Potential*, Poster, Women in Machine Learning Workshop, Orlando, 2007
- **Maria-Luiza Antonie**, Osmar R. Zaiane, Robert C. Holte, *Improving Associative Classifiers*, Poster, Women in Machine Learning Workshop, San Diego, 2006
- Osmar R. Zaiane, **Maria-Luiza Antonie**, *Categorizing multimedia documents*, Poster, CanDB, Edmonton, 2002
- Osmar R. Zaiane, **Maria-Luiza Antonie**, *Automatically categorizing text and web documents*, Poster, TeleLearning Conference, Vancouver, 2001
- Osmar R. Zaiane, **Maria-Luiza Antonie**, *Associating Terms with Text Categories*, Technical Report TR01-04, Department of Computing Science, University of Alberta, April 2001

**Invited Talks and Presentations**

- **Maria-Luiza Antonie**, *Associative Classifiers: Improvements and Potential*, Graduate Seminar, Department of Computing Science, University of Alberta, September 2008.
- **Maria-Luiza Antonie**, *Learning to Use a Learned Model: A Two-Stage Approach to Classification*, The Sixth IEEE International Conference on Data Mining (ICDM'06), Hong Kong, China, 2006.
- **Maria-Luiza Antonie**, *Extensions to an Associative Classifier*, Presented for Database & Data Mining Lab Seminars at Simon Fraser University, April 2005, Vancouver
- **Maria-Luiza Antonie**, *Mining Positive and Negative Association Rules: An Approach for Confined Rules*, 8th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD 04), Pisa, Italy, 2004.
- **Maria-Luiza Antonie**, *Mining Thick Skylines over Large Databases*, 8th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD'04), Pisa, Italy, 2004. – presented on behalf of Wen Jin, Jiawei Han and Martin Ester
- **Maria-Luiza Antonie**, *Classification in the Presence of Rare Classes*, the 1<sup>st</sup> Database Workshop, University of Alberta, March 2004.
- **Maria-Luiza Antonie**, *Text Document Categorization by Term Association*, in Proc. of the IEEE International Conference on Data Mining (ICDM'2002), Maebashi City, Japan, 2002
- **Maria-Luiza Antonie**, *Mammography Classification by an Association Rule-Based Classifier*, *Third Intl. ACM SIGKDD Workshop on Multimedia Data Mining (MDM/KDD'2002*, Edmonton, Alberta, Canada, 2002
- **Maria-Luiza Antonie**, *Association Rule Mining*, Database Research Meeting, Department of Computing Science, University of Alberta, March 2003.
- **Maria-Luiza Antonie**, *Categorizing Digital Documents by Associating Content Features*, Joint Meeting of Database Groups at University of Alberta and University of Calgary, November 2002.
- **Maria-Luiza Antonie**, *Categorizing Digital Documents by Associating Content Features*, Graduate Seminar, Department of Computing Science, University of Alberta, July 2002.

**Awards/Scholarships/Bursaries/Grants**

- |           |                                                                                                   |
|-----------|---------------------------------------------------------------------------------------------------|
| 2003-2007 | <i>Alberta Ingenuity Studentship</i> (\$15000 CAD/year), Alberta Ingenuity Fund, Alberta, Canada; |
| 2003-2007 | <i>iCore Scholarship</i> (\$15000 CAD/year), iCore, Alberta, Canada;                              |
| 2002-2003 | <i>Alberta Ingenuity Studentship</i> (\$20000 CAD), Alberta Ingenuity Fund, Alberta, Canada;      |

- 2004 *J Gordin Kaplan Graduate Student Award* (\$800 CAD), Faculty of Graduate Studies, University of Alberta, Canada, based on merit, awarded to help with the cost of conference related travel expenses
- 2004 *Professional Development Grant* (\$175 CAD), Graduate Student Association, University of Alberta, Canada, based on merit, awarded to help with the cost of conference related travel expenses
- 2002 *J Gordin Kaplan Graduate Student Award* (\$600 CAD), Faculty of Graduate Studies, University of Alberta, Canada, based on merit, awarded to help with the cost of conference related travel expenses
- 2002 *Professional Development Grant* (\$200 CAD), Graduate Student Association, University of Alberta, Canada, based on merit, awarded to help with the cost of conference related travel expenses
- 2000-2005 *International Tuition Fee Award* (\$800-\$2000 CAD/year), Department of Computing Science, University of Alberta, Canada, awarded to help with the cost of differential tuition fees
- 2000-2004 *Teaching Assistant Award* (\$300-\$500 CAD/term), University of Alberta, Canada, awarded for the support of the teaching assistant program
- 2000 *Socrates Scholarship* (\$4000 US), European Union and Politehnica University of Bucharest, Romania, based on academic achievements, awarded for support as an exchange student at the Department of Medical Physics, University of Patras, Greece
- 1995-2000 *University Academic Scholarship* (\$400-\$500 CAD/year), Politehnica University of Bucharest, Romania, based on academic merit, awarded to the students with the highest GPA at the end of each term

### **Teaching Interests**

- Data Mining
- Machine Learning
- Introduction to Computing Science
- Database Management Systems
- Image Processing

### **Teaching Experience**

- Jan - Aug 2009 *Sessional Lecturer for CS100-Introduction to Computer Usage*, David R. Cheriton School of Computer Science, University of Waterloo, Canada.
- 2000-2005 *Teaching assistant for CMPUT 114- Structural Programming and Data Structures* (Fall 2000, Winter 2001, Winter 2002, Fall 2002, Winter 2003, Fall 2003, Winter 2005), Department of Computing, University of Alberta, Canada. Duties included laboratory tutorials, marking assignments. Laboratory work in Java.

### **Professional, Academic and Administrative Experience**

- Organizer for the Workshop for Women in Machine Learning (WiML) 2008
- Program Committee Member for International Conference on Data Mining (ICDM) 2007

- Reviewer for: Data Mining and Knowledge Discovery (DMKD) journal (since 2009), Data & Knowledge Engineering (DKE) journal (since 2005), Knowledge and Information Systems (KAIS) journal (since 2005)
- External Reviewer for : International Conference on Data Mining (ICDM'06, ICDM'05, ICDM'04, ICDM'03, ICDM'02), Advanced Data Mining and Applications (ADMA'05), International Conference on Knowledge Discovery and Data Mining (KDD'06, KDD'05, KDD'04), ACM Symposium on Applied Computing (ACMSAC), Australasian Conference on Knowledge Discovery and Data Mining (ausDM'04), Conference on Information and Knowledge Management (CIKM'03), European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD'04), SIAM International Conference in Data Mining (SDM'03, SIAM'04), International Symposium on String Processing and Information Retrieval (SPIRE'03)
- Web administrator (responsible with the submission and review process) for: Web Mining for Usage Patterns and User Profiles (WebKDD) 2002; Third International Workshop on Multimedia Data Mining (MDMKDD) 2002.
- Member of General Faculty Council, University of Alberta, Canada, 2006-2007
- Volunteer Speaker at Women in IT Conference, University of Alberta, 2007
- Volunteer for Women in IT Conference, University of Alberta, 2006
- Volunteer for various events in Computing Science Department
- Volunteer for Buddy Program (helping new students accommodate with the department and the city), Department of Computing Science, 2002
- Participant in United Way fund raising campaign (Turkey Trot 4km run/walk), 2000-2006

### **Other Skills and Qualifications**

Language skills: Romanian – native, English – fluent, French – intermediate

Computer skills: Languages: C/C++, Java, Perl, Python, SQL, HTML, Matlab  
Database: Oracle, Microsoft Access  
Systems: Linux, Windows  
Office: Latex, Word, Powerpoint, Excel

### **Personal Interests**

Traveling

Cooking

Sports: squash, tennis, yoga, ski