

# Rosanne Vetro

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## Education

### **University of Massachusetts Boston, USA (2008-present)**

PhD. Candidate, Department of Computer Science, Data Mining Group

*M.S.Thesis: Mining for High Complexity Regions using Entropy and Box-Counting Dimension Quadrees*

GPA: 4.0/4.0

### **Federal University of Rio de Janeiro, Rio de Janeiro, Brazil (2000-2001)**

Graduate studies in Computer Science, specializing in database technologies

### **Federal University of Rio de Janeiro, Rio de Janeiro, Brazil (1994-1999)**

B.S. degree in Computer Science

## Specialties & Expertise

Development of data mining algorithms for analysis and clustering based on information-theoretic concepts and statistics. Strong background in theoretical computer science.

Interests: Development of algorithms for optimization problems, data mining, graph theory, image, video or audio processing and bioinformatics.

Technical Skills: C, C++, Java, SQL, OQL, XQL, MATLAB

## Academic Experience

### **University of Massachusetts Boston, USA**

*Teaching Assistant at the Department of Computer Science*

(09/2008 – 05/2010 , 09/2011-12/2011)

Undergraduate Course: Theory of Computation (CS420)

(01/2011 – 05/2011)

Graduate Course: Analysis of Algorithms (CS624)

## Industry Experience

### **TV Globo, Rio de Janeiro, Brazil (06/2000 – 08/2003)**

*Software Engineer*

Developed a system to ensure that commercials were being fully transmitted by affiliate stations. Automation data from several locations was analyzed and compared to data in a centralized database. Participated in the development of a media asset management system for television broadcast that includes ingesting, logging, editing and playout components.

Main responsibility was to architect database and to create related interfaces to store, search and access metadata and multimedia content.

### **NHK, Tokyo, Japan (11/2002 – 01/2003)**

*Visiting Researcher*

Developed an application for converting information stored in NHK databases into an exchangeable metadata format compliant to the ISO/IEC MPEG-7 standard. Proposed a Video Program Profile for broadcast applications to the standard, which was adopted.

### **Publications**

R. Vetro, D. Simovici, "Entropic Quadrees and Mining Mars Craters", *ICDM 2010*, Berlin, Germany, July 12-14 2010.

R. Vetro, W. Ding, D. Simovici, "Mining for High Complexity Regions Using Entropy and Box Counting Dimension Quad-Trees", *9th IEEE International Conference on Cognitive Informatics*, Beijing, China, July 07-09 2010. (*Best Paper Award*)

D. Simovici, D. Pletea, R. Vetro, "Information-Theoretical Mining of Determining Sets for Partially Defined Functions", *40th International Symposium on Multiple-Valued Logic*, Barcelona, Spain, May 26-28 2010.

D. Simovici, D. Pletea, R. Vetro, "Mining Determining Sets for Partially Defined Functions", *Advances in Data Mining - 9th Industrial Conference on Data Mining, ICDM 2009*, Leipzig, Germany. LNAI 5633 pp.353-360.(Springer)

### **Honors & Awards**

The Award for Outstanding Achievement in Computer Science - University of Massachusetts Boston, 2011

Best paper award, "Mining for High Complexity Regions Using Entropy and Box Counting Dimension Quad-Trees", 2010

Outstanding Engineer Award, TV Globo, 2002

### **Immigration Status**

US Citizen

### **References**

Prof. Dan A. Simovici ([dsim@cs.umb.edu](mailto:dsim@cs.umb.edu)), Graduate Program Director and Professor  
*Department of Computer Science, University of Massachusetts Boston, USA*

Prof. Carl Offner ([offner@cs.umb.edu](mailto:offner@cs.umb.edu)), Industrial Professor  
*Department of Computer Science, University of Massachusetts Boston, USA*

Mr. Masanori Sano ([sano.m-fo@nhk.or.jp](mailto:sano.m-fo@nhk.or.jp)), Principal research engineer  
*NHK Science & Technical Research Laboratories, Tokyo, Japan*

Mr. Silvio Pereira ([silvio.pereira@tvglobo.com.br](mailto:silvio.pereira@tvglobo.com.br)), Manager  
*TV Globo, Rio de Janeiro, Brazil*