

# Massimiliano Albanese

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## EDUCATION

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- PhD in Computer Science and Engineering, University of Naples “Federico II”, Naples, Italy, 2005
  - Thesis title: EXTRACTING AND SUMMARIZING INFORMATION FROM LARGE DATA REPOSITORIES
  - Thesis Advisors:
    - Prof. Antonio PICARIELLO, University of Naples
    - Prof. V.S. SUBRAHMANYAN, University of Maryland
- M.S. in Computer Science and Engineering, University of Naples “Federico II”, Naples, Italy, 2002
  - Final grade: 110/110 cum laude
  - Thesis title: QUERY BY VIDEO ALGEBRA PROJECT: A PROBABILISTIC APPROACH TO THE RETRIEVAL FROM VIDEO DATA BASES
  - Thesis Advisors:
    - Prof. Lucio SANSONE, University of Naples
    - Prof. Antonio PICARIELLO, University of Naples

## RESEARCH INTERESTS

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- Information Retrieval and Information Extraction
- Automatic Story Creation and Video Summarization
- Database Systems and Multimedia Databases
- Activity Detection in Video and in Temporal Databases
- Quantitative Analysis of Social Media

## ACADEMIC AND PROFESSIONAL EXPERIENCE

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- **August 2006 - present.** Faculty Research Assistant, University of Maryland Institute for Advanced Computer Studies, University of Maryland, College Park, Maryland, USA.
- **January - July 2006.** Faculty Research Assistant, Department of Computer Science, University of Naples “Federico II”, Naples, Italy.
- **September - October 2005.** Consultant, “Città della Scienza Onlus”, Naples, Italy: designed and implemented a web-based information system to support distributed data collection centers.
- **June - August 2004.** Consultant, “ARPA - Agenzia Ricerca e Produzione Avanzata dell'Università degli Studi di Napoli Federico II” (Advanced Research Projects Agency), Naples, Italy: defined guidelines for the design of a commercial e-learning platform.
- **May 2002 - May 2003.** Software developer, “Centro di servizi Didattico Scientifico” (C.D.S.), University of Naples “Federico II” (Center for Educational and Scientific Services): designed and implemented the e-learning portal of the University of Naples.

## AWARDS

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- The STORY project received an honorable mention in Computerworld Horizon Awards 2005 for most innovative pre-commercial software.
- Awarded a 3-year scholarship by the PhD Program Admission Committee, University of Naples “Federico II”, Naples, Italy.

## PUBLICATIONS

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### JOURNAL PAPERS

1. M. Albanese, R. Chellappa, N. Cuntoor, V. Moscato, A. Picariello, V.S. Subrahmanian, and O. Udrea. **“PADS: A Probabilistic Activity Detection Framework for Video Data”**. To appear in *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2009.
2. M. Albanese, A. Chianese, A. d'Acerno, V. Moscato, and A. Picariello. **“A Multimedia Recommender Integrating Object Features and User Behavior”**. To appear in *Multimedia Tools and Applications*, 2009.
3. M. Albanese, R. Chellappa, V. Moscato, A. Picariello, V.S. Subrahmanian, P. Turaga, and O. Udrea. **“A Constrained Probabilistic Petri Net Framework for Human Activity Detection in Video”**. *IEEE Transactions on Multimedia*, vol. 10, no. 8, pp. 1429-1443, December 2008.
4. M. Fayzullin, V.S. Subrahmanian, M. Albanese, C. Cesarano, and A. Picariello. **“Story Creation from Heterogeneous Data Sources”**. *Multimedia Tools and Applications Journal*, vol. 33, no. 3, pages 351-377, June 2007.
5. V. S. Subrahmanian, M. Albanese, M. V. Martinez, D. Nau, D. Reforgiato, G. I. Simari, A. Sliva, O. Udrea, and J. Wilkenfeld. **“CARA: A Cultural-Reasoning Architecture”**. *IEEE Intelligent Systems*, vol. 22, no. 2, pp. 12-16, March/April 2007.
6. M. Albanese, M. Fayzullin, A. Picariello, and V.S. Subrahmanian. **“The Priority Curve Algorithm For Video Summarization”**. *Information Systems Journal*, vol. 31, no. 7, pages 679-695, November 2006.
7. M. Albanese, A. Chianese, V. Moscato, and L. Sansone. **“A Formal Model for Video Shot Segmentation and its Application via Animate Vision”**. *Multimedia Tools and Applications Journal*, volume 24, n. 3, pp. 253-272, December 2004.

### CHAPTERS IN BOOKS

1. M. Albanese, P. Turaga, R. Chellappa, A. Pugliese, and V. S. Subrahmanian. **“Semantic Video Content Analysis”**. To appear in *Video Search and Mining*, Springer-Verlag, 2009.
2. M. Albanese, C. Cesarano, M. Fayzullin, A. Picariello, and V.S. Subrahmanian. **“VIDEO SUMMARIZATION”**. In *Encyclopedia of Multimedia* (ed. B. Furht), pp. 917-924, Springer, 2006.
3. M. Albanese, A. Chianese, V. Moscato, and A. Picariello. **“E<sup>2</sup>: E-CONTENT ED E-LEARNING”** (In Italian). In *Didamatica 2002 – Informatica per la didattica, “e-Learning: metodi, strumenti ed esperienze a confronto”*, pp. 213-224, 2002.

### CONFERENCE PAPERS

1. A. d'Acerno, V. Moscato, A. Picariello, M. Albanese, and A. Chianese. **“A Recommendation System for Browsing Digital Libraries”**. In *Proceedings of the 24th Annual ACM symposium on Applied Computing (SAC 2009)*, pp. 1771-1778, ACM, Honolulu, Hawaii, USA, March 8-12, 2009.

2. M. Albanese, and V.S. Subrahmanian. **“T-REX: A System for Automated Cultural Information Extraction”**. In *Proceedings of the First International Conference on Computational Cultural Dynamics (ICCCD 2007)*, pp. 2-8, AAAI Press, College Park, Maryland, USA, August 27-28, 2007.
3. M. Albanese, A. Pugliese, V.S. Subrahmanian, and O. Udrea. **“MAGIC: A Multi-Activity Graph Index for Activity Detection”**. In *Proceedings of the IEEE International Conference on Information Reuse and Integration (IEEE IRI-07)*, Las Vegas, Nevada, USA, August 13-15, 2007.
4. M. Albanese, V. Moscato, A. Picariello, V.S. Subrahmanian, and O. Udrea. **“Detecting Stochastically Scheduled Activities in Video”**. In *Proceedings of the 20th International Joint Conference on Artificial Intelligence (IJCAI 2007)*, pp. 1802-1807, Hyderabad, India, January 6-12, 2007.
5. M. Albanese, A. Chianese, A. Penta, A. Picariello, and L. Passariello. **“An Agent Model for User Profiling in an ASP Environment ”**. In *Proceedings of the 17th International Conference on Database and Expert Systems Applications Workshops (DEXA 2006), 9th International Workshop on Network-Based Information Systems (NBIS'06)*, pp. 15-19, IEEE Computer Society. Krakow, Poland, September 4-8, 2006.
6. M. Albanese, A. Chianese, V. Moscato, and A. Picariello. **“Experience of Animate Similarity Concepts in Multimedia Database”**. In *Proceedings of the 22nd International Conference on Data Engineering Workshops (ICDE 2006), First IEEE International Workshop on Multimedia Databases and Data Management (IEEE-MDDM'06)*, IEEE Computer Society. Atlanta, Georgia, USA, April 3-7, 2006
7. M. Albanese, P. Capasso, A. Picariello, and A.M. Rinaldi. **“Information Retrieval from the Web: an Interactive Paradigm”**. In *Proceedings of the 11th International Workshop on Multimedia Information Systems (MIS 2005)*, Sorrento, Italy, September 19-21, 2005.
8. M. Albanese, P. Maresca, A. Picariello, and A.M. Rinaldi. **“Towards a Multimedia Ontology System: an Approach Using TAO\_XML”**. In *Proceedings of the Eleventh International Conference on Distributed Multimedia Systems (DMS 2005)*, pp. 52-57, Banff, Canada, September 5-7, 2005.
9. M. Fayzullin, V.S. Subrahmanian, M. Albanese, and A. Picariello. **“The Priority Curve Algorithm for Video Summarization”**. In *Proceedings of the 2nd ACM International Workshop on Multimedia Databases (ACM MMDB'04)*, pp. 28-35, Washington, DC, USA, November 13, 2004.
10. M. Albanese, A. Picariello, C. Sansone, and L. Sansone. **“Web Personalization based on Static Information and Dynamic User Behavior”**. In *Proceedings of the 6th ACM International Workshop on Web Information and Data Management (WTDM 2004)*, pp. 80-87, Washington, DC, USA, November 12-13, 2004.
11. M. Fayzullin, V.S. Subrahmanian, M. Albanese, C. Cesarano, and A. Picariello. **“STORY: Architecture of a system to create stories about Pompeii and other applications”**. In *Proceedings of the 10th International Workshop on Multimedia Information Systems (MIS 2004)*, pp. 2-13, College Park, Maryland, USA, August 25-27, 2004.
12. M. Albanese, A. Picariello, and A. M. Rinaldi. **“A Semantic Search Engine for Web Information Retrieval: an Approach Based on Dynamic Semantic Networks”**. In *Proceedings of SIGIR Semantic Web and Information Retrieval Workshop (SWIR 2004)*, Sheffield, United Kingdom, July 25-26, 2004.
13. M. Albanese, A. Picariello, and A. M. Rinaldi. **“A Technological Framework for Personalized Museum Visiting”**. In *Proceedings of the 10th International Conference on Information Systems Analysis and Synthesis (ISAS 2004) and International Conference on Cybernetics and Information Technologies, Systems and Applications (CITSA 2004)*, pp. 273-278, Orlando, Florida, USA, July 21-25, 2004.
14. M. Albanese, C. Cesarano, and A. Picariello. **“A Multimedia Data Base Browsing System”**. In

- Proceedings of the First International Workshop on Computer Vision meets Databases (CVDB 2004)*, pp. 35-42, Paris, France, June 13, 2004.
15. M. Albanese, A. Picariello, C. Sansone, and L. Sansone. **“A Web Personalization System based on Web Usage Mining Techniques”**. In *Proceedings of the 13th International World Wide Web Conference (WWW 2004)*, pp. 288-289, New York, USA, May 17-22, 2004.
  16. M. Albanese, A. Chianese, V. Moscato, and L. Sansone. **“Dissolve Detection in a Video Sequence Based on Animate Vision”**. In *Proceedings of the 9th International Workshop on Multimedia Information Systems (MIS 2003)*, pp. 115-122, Ischia, Italy, May 26-28, 2003.
  17. M. Albanese, G. Boccignone, V. Moscato, and A. Picariello. **“Image Similarity Based on Animate Vision: Information Path Matching”**. In *Proceedings of the 8th International Workshop on Multimedia Information Systems (MIS 2002)*, pp. 66-75, Tempe, Arizona, USA, October 30 - November 1, 2002.

## TEACHING EXPERIENCE

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INSTRUCTOR, University of Maryland

- “Information Extraction and Integration” (HONR229C), Spring 2009  
The course covered the major issues faced by researchers in Information Extraction and Integration, current solutions, current and possible future applications.

TEACHING ASSISTANT, University of Naples, Italy, 2003-2006

- “Data Base Systems” and “Information Systems”  
Assisted Prof. L. Sansone, Prof. Antonio Picariello, and Prof. A. Chianese. My duties included giving classes on select topics, grading projects and final exams.
- “Computer Design” (Calcolatori Elettronici)  
Assisted Prof. Antonio Picariello. My duties included giving classes on select topics, grading projects and final exams.
- “Basics of Computer Science”  
Assisted Prof. Antonio Picariello, and Prof. A. Chianese. My duties included giving classes on select topics, grading projects and final exams.

INSTRUCTOR, 3F Data Systems, Naples, Italy, May 2004

- “XML and related technologies” training course for working professionals

INSTRUCTOR, Fondazione IDIS – Città della Scienza, Naples, Italy, May 2003

- “Data Base Administrator” training course for working professionals

INSTRUCTOR, University of Naples, Italy, July 2002

- “Master in recupero e promozione dei centri storici attraverso l'uso di tecnologie, materiali polimerici innovativi e tecniche avanzate di censimento e comunicazione”  
Taught classes on Computer Networks and Dynamic Web Sites Design.

## OTHER RELEVANT ACTIVITIES

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- Program Committee Member of the IEEE International Conference on Information Reuse and Integration since the 2008 edition.
- Thesis Advisor for more than 10 master students between 2005 and 2006.

## **TECHNICAL SKILLS**

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- Operating systems: Windows, Linux.
- Programming languages: C++, Java, JavaScript, PL/SQL, Pascal, Basic, C#, FORTRAN, PHP.
- Other languages: HTML, CSS, XML.
- Development frameworks: Visual Studio, Visual Studio .NET, JBuilder, JDeveloper, web design tools (Macromedia Dreamweaver).
- DBMS: SQL Server, Oracle, MySql, PostgreSQL.

## **LANGUAGES**

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- Italian: native.
- English: fluent, spoken and written.

## **REFERENCES**

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Available upon request.

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