

**Tom Johnsten**  
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## Education

- B.S., Mathematics, Oklahoma State University, 1987.
- M.S., Computer Science, Arizona State University, 1993
- Ph.D., Computer Science, University of Louisiana at Lafayette, 1998.

## Appointments

- Associate Professor of Computer Science, August 2002 – Present  
School of Computing, University of South Alabama
- Assistant Professor of Computer Science, January 2000 – 2002  
Computer Science Department, Western Illinois University
- Visiting Assistant Professor of Computer, January 1998 – 1999  
Computer Science Department, University of Louisiana at Lafayette

## Publications

### Book Chapters:

- Y. Xie, T. Johnsten, V. V. Raghavan, R. G. Benton, and W. Bush, “A Comprehensive Granular Model for Decision Making with Complex Data” *Granular Computing and Decision-Making: Interactive and Iterative Approaches*, Witold Pedrycz and Shyi-Ming Chen, Editors, Springer, 16 pages, *in press*.
- T. Johnsten, V.V. Raghavan, and Kevin Hill, “On Security and Privacy Risks in Association Mining Algorithms” *Research Directions in Data and Applications Security*, Ehud Gudes and Sujeet Sheno, Editors, Springer, pp. 163-174, 2002.
- T. Johnsten and V.V. Raghavan, “Security Procedures for Classification Mining Algorithms” *Database and Application Security XV*, Martin Olivier and David Spooner Editors, Kluwer Academic Publishers, pp. 285 – 297, 2001.
- T. Johnsten and V.V. Raghavan, “Impact of Decision-Region Based Classification Mining Algorithms on Database Security” *Vijay Atluri and John Hale*, Kluwer, pp. 177-191.

### Special Report to the National Science Foundation:

- V.V. Raghavan, Y. Xie, T. Johnsten, R. Benton, B. Lemoine, D. Difallah, "Concept Map-based Organized for REsearch Portfolios (C-MORE)", in *CISE and SBE AC Subcommittee on Discovery in a Research Portfolio: Tools for Structuring, Analyzing, Visualizing and Interacting with Proposal and Award Portfolios*, 20 pages, Nov. 2011.

Journal:

- T. Johnsten, L. Fain, L. Fain, R. Benton, E. Butler, L. Pannell, and M. Tan, "Exploiting Multi-Layered Vector Spaces for Signal Peptide Detection", *International Journal of Data Mining and Bioinformatics*, *accepted*.
- R. Singh, T. Johnsten, V.V. Raghavan, and Y. Xie. "Algorithms for Discovering Potentially Interesting Patterns," *Intl. Journal of Granular Computing, Rough Sets, and Intelligent Systems*, Vol. 2, No. 2, pp. 107-122, 2011.

Invited Paper for Conferences/Workshops:

- V. V. Raghavan, R. G. Benton, T. Johnsten, and Y. Xie, "Representations for Large-scale Sequence Data Mining: A Tale of Two Vector Space Models", in *International Conference on Rough Sets, Fuzzy Sets, Data Mining, and Granular Computing*, pp. 15-25, October 11-14, 2013.

Referred Papers for Conferences/Workshops:

- T. Johnsten, S. Alihamad, A. Kannalath, and R. G. Benton, "Targeted Action Rule Discovery", in *International Conference on Machine Learning and Applications*, Miami, Florida, 348-353, December 4-7, 2013.
- R. G. Benton, S. Choubey, D. G. Clark, T. Johnsten, and V. V. Raghavan, "Diagnosis and Grading of Alzheimer's Disease via Automatic Classification of FDG-PET Scans", in *International Conference on Brain and Health Informatics*, Maebashi, Japan, October 29-31, 2013.
- Y. Xie, J. Fisher, V.V. Raghavan, T. Johnsten, and C. Akkoç, "Granular Approach for Protein Sequence Analysis", *In Proceedings of 8<sup>th</sup> Int'l Conf. on Rough Sets and Current Trends in Computing*, Chengolu, China, August 17-20, 2012.
- J. Landry, J.H. Pardue, T. Johnsten, M. Campbell, and P. Patidar, "A Threat Tree for Health Information Security and Privacy", *17<sup>th</sup> Americas Conference on Information Systems (AMCIS)*, Detroit, Michigan, August 4-8, 2011.
- D. Difallah, R. G. Benton, T. Johnsten and V. Raghavan, "FAARM: Frequent Association Action Rules Mining Using FP-Tree", in *Workshop on Domain Driven Data Mining*, part of 11th IEEE International Conference on Data Mining Workshops, Vancouver, Canada, pp. 398-404, December 11, 2011.
- C. Akkoç, T. Johnsten and R.G. Benton, "Multi-layered Vector Spaces for Classifying and Analyzing Biological Sequences", *International Conference on Bioinformatics and Computational Biology*, New Orleans, pp. 160-166, March 23-25, 2011.
- R. Singh, T. Johnsten, V.V. Raghavan, and Y. Xie, "Efficient Algorithm for Discovering Potentially Interesting Patterns with Closed Itemsets", *IEEE Int'l Conf. on Granular Computing*, San Jose, CA, August 14-16, 2010.
- R. Singh, T. Johnsten, V.V. Raghavan, Y. Xie, "An Efficient Algorithm for Discovering Positive and Negative Patterns", *IEEE Int'l Conf. on Granular Computing*, Nanchang, China, August 17-19, 2009.
- Y. Xie, T. Johnsten, V.V. Raghavan, and J. Katukuri. *Examining Granular Computing from a Modeling Perspective*. NAFIPS, New York, New York, 2008.

- Y. Xie, T. Johnsten, M. Nagarajan, K. Ramachandran, V.V. Raghavan, “On Discovering “Novel, Potentially Useful” Patterns from Databases,” IEEE International Conference on Granular Computing, Atlanta, Georgia, 2006.
- Y. Zhou and T. Johnsten, “Protecting Privacy in Person-Specific Data Using Decision Trees,” International Workshop on Privacy and Security Issues in Data Mining in conjunction with the 8th PKDD Conference, Pisa, Italy, September 20, 2004.
- Y. Xie, T. Johnsten, and V.V. Raghavan, “Knowledge Hiding in Databases for Concept-based Data Mining Algorithms” *In Proceedings of WISICT Workshop on Security Effects on Network Communication*, Cancun, Mexico, 2004.
- T. Johnsten, R. Sweeney, and V.V. Raghavan. “A Methodology for Hiding Knowledge in XML Documents. *In Proceedings of COMPSAC Workshop on Web & Security Informatics*, Dallas, TX, 2003.
- T. Johnsten and V. Raghavan, “A Methodology for Hiding Knowledge in Databases,” IEEE International Conference on Data Mining (Workshop on Privacy, Security and Data Mining), Maebashi City, Japan, December 2002.
- F. Lu, T. Johnsten, and V.V. Raghavan and D. Traylor, “Enhancing Internet Search Engines to Achieve Concept-based Retrieval”, *InForum 90*, Oak Ridge, TN, 1999.
- H. Sever, V.V. Raghavan and T. Johnsten, “The Status of Research on Rough Sets for Knowledge Discovery in Databases” *In Proceedings of ICNPAA98-Second Int’l Conf. on Nonlinear Problems in Aviation and Aerospace*, Daytona Beach, FL, 1998.

#### Technical Reports:

- V. Raghavan, R. Benton, H. Chu, T. Johnsten, and S. Choubey, “Patient Early Health Prediction: Data-driven Prognosis of Alzheimer’s Disease”, GE Healthcare, 35 pages, January 12, 2009.

#### Grants / Contract

- “CC\*IIE Networking Infrastructure: Data Driven Expansion at the University of South Alabama”, National Science Foundation. Co-PI. 2014.
- “Discovery of Cancer Genome Mutations using Multi-layered Vector Spaces Model”, USA Cancer Research Fund. PI. 2011.
- “Collaborative Research: Interactive Information Extraction, Structuring and Visualization in a Research Portfolio”, contract from the National Science Foundation. PI. 2010.

#### Thesis / Project Committee Membership

##### Master

- William Bush “Development of the Mutation Correlation Engine (MuCE)” (2015)
- Xingyu Lu “An Information Retrieval-based Algorithm for Motif Discovery (2015)
- Ralf Riedel “Development of a Data Warehouse in Support of Fisheries Management Practices for the Northern Gulf of Mexico: Fisheries Information System” (2011)

- Valerian Kiame “Content-based Classification of Internet Telephony Calls” (2011)
- Oleksandr Grygorash “Image Color Clustering using Minimum Spanning Trees” (2006)
- Praveen Nerellapalli “Adaptive Anti-Spam Email Filtering using Huffman Coding and Statistical Learning” (2005)
- Abishek Kunduru “An Efficient Method for Discovering Violations in Data Anonymity” (2005)

#### Doctoral

- Raj Singh “Mining Potentially Interesting Positive and Negative Patterns: Beyond the Support-Confidence Framework” (2009)