

# Robert T. Olszewski

## CURRICULUM VITAE

**Business Address:** Center for Biomedical Informatics

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Pittsburgh, PA 15217

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## Education

1998–2001

Ph.D. in Computer Science (2001)

1991–1996

MS in Computer Science (1994)

School of Computer Science, Carnegie Mellon University

Dissertation Title: *Generalized Feature Extraction for Structural  
Pattern Recognition in Time-Series Data*

Advisors: Roy Maxion and Dan Siewiorek

1986–1990

BS in Computer Science (1991)

College of Applied Science and Technology,

Rochester Institute of Technology

## Educational Awards and Honors

1992–1995

US Air Force Laboratory Graduate Fellowship

1990

Award for Outstanding Undergraduate Achievement,  
Rochester Institute of Technology

1986–1990

Dean's List, Rochester Institute of Technology

## Employment

- 2004– Machine Learning Specialist  
Carnegie Speech (Pittsburgh, Pennsylvania)  
*Applied machine learning techniques to assess the ability of non-native speakers of English to communicate effectively.*
- 2001–2003 Post-Doctoral Fellow  
Center for Biomedical Informatics, University of Pittsburgh  
*Participated as part of a team developing a large-scale system for the early detection of disease outbreaks and bioterrorism incidents. Focused on obtaining and analyzing potential data sources for the system, and using natural language techniques to classify medical records into categories of illnesses for monitoring purposes.*
- 1996–1998 Research Programmer  
Computer Science Department, Carnegie Mellon University  
*Investigated issues in classification, feature extraction, and feature selection with the purpose of improving discrimination between normal and abnormal data. Domains under investigation included manufacturing sensor data and computer trace logs.*
- 1992 Programmer  
IBM (Burlington, Vermont)  
*Implemented a new programming platform for tool interfaces.*
- 1990–1991 Programmer  
IBM (Burlington, Vermont)  
*Developed a large-scale, automated wafer movement system for a semiconductor fabrication clean room environment. Worked as a member of a small team and participated in all phases of development, implementation, and testing of the system.*

## Publication List

### Book Chapters

- 2004 David L. Banks and Robert T. Olszewski, “Data Mining in Federal Agencies,” in *Statistical Data Mining and Knowledge Discovery*, Hamparsum Bozdogan, Ed., chapter 32, pp. 529–548. Chapman & Hall, 2004.

### Invited and Refereed Journal Contributions

- To appear David L. Banks, Robert T. Olszewski, and Roy A. Maxion, “Comparing Methods for Multivariate Nonparametric Regression,” *Communications in Statistics: Simulation and Computation*. Accepted for publication.
- 2002 D. Banks and R. T. Olszewski, “Combinatorial Search in Multivariate Statistics,” *Statistics in Transition*, vol. 5, no. 5, pp. 803-821, October 2002.
- 2000 Roy A. Maxion and Robert T. Olszewski, “Eliminating Exception Handling Errors with Dependability Cases: A Comparative, Empirical Study,” *IEEE Transactions on Software Engineering*, vol. 26, no. 9, pp. 888–906, September 2000.

### Conference Proceedings

- 2003 Robert T. Olszewski, “Bayesian Classification of Triage Diagnoses for the Early Detection of Epidemics,” in *Recent Advances in Artificial Intelligence: Proceedings of the Sixteenth International FLAIRS Conference*, pp. 412–616. AAAI Press, Menlo Park, California, 2003.
- 2002 Fu-Chiang Tsui, Jeremy Espino, Michael Wagner, Per Gesteland, Oleg Ivanov, Robert T. Olszewski, Zhen Liu, Xiaoming Zeng, Wendy Chapman, Weng Keen Wong, and Andrew Moore, “Data, Network, and Application: Technical Description of the Utah RODS Winter Olympic Biosurveillance System,” in *Proceedings of the AMIA Symposium*, pp. 815–819. Hanley & Belfus, Inc., Philadelphia, Pennsylvania, 2002.
- 2002 Oleg Ivanov, Michael M. Wagner, Wendy W. Chapman, and Robert T. Olszewski, “Accuracy of Three Classifiers of Acute Gastrointestinal Syndrome for Syndromic Surveillance,” in *Proceedings of the AMIA Symposium*, pp. 345–349. Hanley & Belfus, Inc., Philadelphia, Pennsylvania, 2002.
- 1998 Roy A. Maxion and Robert T. Olszewski, “Improving Software Robustness with Dependability Cases,” in *The Twenty-Eighth International Symposium on Fault-Tolerant Computing*, pp. 346–355. IEEE Computer Society Press, Los Alamitos, California, 1998.
- 1997 David Banks and Robert Olszewski, “Estimating Local Dimensionality,” in *Proceedings of the Statistical Computing Section of the American Statistical Association*. ASA, 1997.
- 1995 David Banks, Roy Maxion, and Robert Olszewski, “Comparing Methods for Nonparametric Regression,” in *Proceedings of the Statistical Computing Section of the American Statistical Association*, pp. 136–141. ASA, 1995.
- 1993 Roy A. Maxion and Robert T. Olszewski, “Detection and Discrimination of Injected Network Faults,” in *The Twenty-Third International Symposium on*

*Fault-Tolerant Computing*, pp. 198–207. IEEE Computer Society Press, Los Alamitos, California, 1993.

### Technical Reports and Distributed Papers

- 2001 Robert T. Olszewski, *Generalized Feature Extraction for Structural Pattern Recognition in Time-Series Data*, Ph.D. thesis, Carnegie Mellon University, Pittsburgh, PA, 2001. Available as technical report CMU-CS-01-108.
- 1999 David L. Banks, Robert T. Olszewski, and Roy A. Maxion, “Comparing Methods for Multivariate Nonparametric Regression,” Technical Report CMU-CS-99-102, Carnegie Mellon University, January 1999.

### Conference Presentations without Proceedings

- 2002 Robert Olszewski, “Classification of Free-Text Descriptions of Patient Symptoms for the Detection of Disease Outbreaks.” Presented at the Classification Society of North America Conference, University of Wisconsin, Madison, Wisconsin, June 2002.
- 2001 Robert Olszewski, “Generalized Structural Pattern Recognition in Time-Series Data.” Presented at the Classification Society of North America Conference, Washington University, St. Louis, Missouri, June 2001.
- 1997 Robert Olszewski and David Banks, “Estimating Local Dimensionality.” Presented at the Classification Society of North America Conference, American University, Washington, DC, June 1997.
- 1994 Robert T. Olszewski and Dean M. Behrens, “A Generalized Approach to Partitioning Networks Based on Direct Models of Equivalency.” Presented at the International Sunbelt Social Networks Conference, New Orleans, Louisiana, February 1994.

### Submitted Papers

Wendy W. Chapman, Lee M. Christensen, Michael M. Wagner, Peter J. Haug, Oleg Ivanov, John N. Dowling, and Robert T. Olszewski, “Classifying Free-text Triage Chief Complaints into Syndromic Categories with Natural Language Processing.” Submitted to *AI in Medicine*.

Dean M. Behrens, Robert T. Olszewski, and Kathleen M. Carley, “DATE: Direct Approaches to Equivalences.” Submitted to *Journal of Mathematical Sociology*.

## **External Professional Activities**

### **Professional Affiliations**

Classification Society of North America (CSNA)

Association for Computational Linguistics

## **Courses Taught**

### **Teaching Assistant**

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| 1994 | Fundamental Structures of Computer Science I (15-211)<br>Computer Science Department, Carnegie Mellon University |
| 1993 | Fundamental Structures of Computer Science I (15-211)<br>Computer Science Department, Carnegie Mellon University |
| 1993 | Basic Computer Systems (15-740)<br>Computer Science Department, Carnegie Mellon University                       |