

**Edward W. Wild III**  
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## Degrees

**PhD in Computer Sciences** *Expected May 2008*

- University of Wisconsin-Madison, Madison, Wisconsin.
- Advisor: Dr. Olvi L. Mangasarian.
- Thesis: Optimization-Based Machine Learning and Data Mining.

**M. S. in Computer Sciences** *May 2004*

- University of Wisconsin-Madison, Madison, Wisconsin.

**B. S. in Computer Sciences** *May 2002*

- University of Texas at Austin, Austin, Texas.
- Graduated with highest honors.

## Experience

**Research Assistant** *June 2003 – present*

- University of Wisconsin-Madison, Madison, Wisconsin.
- Development and application of optimization techniques to problems in machine learning and data mining, including
  - incorporation of prior knowledge into support vector machines for classification and approximation.
  - feature selection in nonlinear kernel classification and in clustering.
  - exactness conditions for a dual exterior penalty method for linear programming.
  - multiple instance classification.

**Trainee** *May 2004 – August 2004*

- Computation and Informatics in Biology and Medicine training program, University of Wisconsin-Madison, Madison, Wisconsin.
- Development and application of optimization algorithms for biological data.

**Undergraduate Research Assistant** *May 2001 – August 2001*

- University of Texas at Austin, Austin, Texas.
- Developed a library for writing wrappers to extract information from the Internet.

**Senior Student Associate** *June 2000 – January 2001*

- Applied Research Laboratories, Austin, Texas.
- Worked on components of a real-time sonar system.

**Engineering Intern** *May 1999 – August 1999*

- National Instruments, Austin, Texas.
- Implemented part of a framework for device management for test and measurement devices.

## Additional Skills

Design and analysis of experiments to compare machine learning algorithms.

Matlab, C and C++ programming. Past experience in Java, R, Prolog and OCaml.

Text processing and scripting with Bash, sed, AWK, Ruby and Haskell languages.

**Honors**

**Dean's Honored Graduate** 2002

- College of Natural Sciences, University of Texas at Austin.

**Special Honors** 2002

- Department of Computer Sciences, University of Texas at Austin.

**University Fellowship** 2002

- University of Wisconsin-Madison.

**Refereed Publications****Journal Articles**

- (1) O. L. Mangasarian, J. W. Shavlik and E. W. Wild. Knowledge-Based Kernel Approximation. *Journal of Machine Learning Research* 5, 1127-1141, 2004.
- (2) O. L. Mangasarian and E. W. Wild. Multisurface Proximal Support Vector Classification via Generalized Eigenvalues. *IEEE Transactions on Pattern Analysis and Machine Intelligence* 28(1), 2006, 69-74.
- (3) O. L. Mangasarian and E. W. Wild. Nonlinear Knowledge in Kernel Approximation. *IEEE Transactions on Neural Networks* 18(1), 2007, 300-306.
- (4) O. L. Mangasarian and E. W. Wild. Multiple Instance Classification via Successive Linear Programming. *Journal of Optimization Theory and Applications*, to appear.

**Conference Articles**

- (5) R. Maclin, J. Shavlik, L. Torrey, T. Walker and E. Wild. Giving Advice about Preferred Actions to Reinforcement Learners via Knowledge-Based Kernel Regression. *Proceedings of the Twentieth National Conference on Artificial Intelligence*, pages 819-824, Pittsburgh, PA. July 2005.
- (6) R. Maclin, E. Wild, J. Shavlik, L. Torrey and T. Walker. Refining Rules Incorporated into Knowledge-Based Support Vector Learners Via Successive Linear Programming. *Proceedings of the Twenty-Second Conference on Artificial Intelligence*, pages 584-589, Vancouver, British Columbia. July 2007.

**Workshop Articles**

- (7) O. L. Mangasarian and E. W. Wild. Feature Selection in  $k$ -Median Clustering. SDM 2004 Workshop on Clustering High Dimensional Data and its Applications, pages 23-28, Lake Buena Vista, FL. April 2004.
- (8) O. L. Mangasarian and E. W. Wild. Feature Selection for Nonlinear Kernel Classification. ICDM 2007 Workshop on Optimization-based Data Mining Techniques with Applications, to appear.

**Technical Reports**

- (i) O. L. Mangasarian and E. W. Wild. Nonlinear Knowledge-Based Classification. Data Mining Institute Technical Report 06-04, August 2006. Submitted.
- (ii) O. L. Mangasarian, E. W. Wild and G. M. Fung. Proximal Knowledge-Based Classification. Data Mining Institute Technical Report 06-05, November 2006. Submitted.
- (iii) O. L. Mangasarian and E. W. Wild. Nonlinear Knowledge in Kernel Machines. Data Mining Institute Technical Report 06-06, November 2006. Submitted.
- (iv) O. L. Mangasarian and E. W. Wild. Exactness Conditions for a Convex Differentiable Exterior Penalty for Linear Programming. Data Mining Institute Technical Report 07-01, July 2007. Submitted.

**Other Publications**

E. W. Wild. ELIXIR: A Library for Writing Wrappers in Java. Undergraduate Honor Thesis, Department of Computer Sciences, University of Texas at Austin, December 2001. Available online:  
<http://www.cs.utexas.edu/users/ml/papers/wild-ugthesis-01.pdf>.

**Presentations**Feature Selection in  $k$ -Median Clustering

O. L. Mangasarian and E. W. Wild. Fourth SIAM International Conference on Data Mining (SDM 2004) Workshop on Clustering High Dimensional Data and its Applications. Lake Buena Vista, Florida, April 24, 2004.

## Nonlinear Knowledge in Kernel Machines

O. L. Mangasarian and E. W. Wild. Mathematical Programming in Data Mining and Machine Learning Workshop. Banff International Research Station for Mathematical Innovation and Discovery, Banff, Alberta January 14-19, 2007.

**Volunteer Work****Jazz Band Director***1998*

- Chisholm Trail Middle School, Round Rock, Texas.

**Jazz Trumpet Clinician***1997*

- Chisholm Trail Middle School, Round Rock, Texas.

**Eagle Scout Project***1995*

- Raised funds for and supervised construction of a tetherball court for the Texas Baptist Children's Home, Round Rock, Texas.

**References available on request**