Curriculum Vitae
John M. Zelle, Ph.D.

Address

Department of Math, Computer Science, and Physics
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Education

Ph.D. in Computer Science, University of Texas at Austin, 1995.

M.S. in Computer Science, Iowa State University, 1986.

B.S. in Computer Science and Speech Communications, Iowa State University, 1984.

Professional Experience

Fall 2004 – Present: Professor, Department of Mathematics, Computer Science, and Physics, Wartburg College.

September 1998 – May 2004: Associate Professor, Department of Mathematics, Computer Science, and Physics, Wartburg College.

September 1995 – May 1998: Assistant Professor, Department of Mathematics and Computer Science, Drake University.

September 1990 – August 1995: Graduate Research Assistant and Teaching Assistant, Department of Computer Sciences, University of Texas at Austin.

September 1986 – August 1990: Assistant Professor, Department of Mathematics and Computer Science, Wartburg College.

January 1986 – May 1986: Instructor, Computer Science Department, Iowa State University.

September 1984 – December 1985: Teaching Assistant, Computer Science Department, Iowa State University.

Dissertation Title

Using Inductive Logic Programming to Automate the Construction of Natural Language Parsers

Dissertation Advisor

Dr. Raymond Joseph Mooney, Professor, Department of Computer Sciences, University of Texas at Austin.

Current Research Interests

Computer Science Education: languages and environments for teaching object-oriented design and programming.

Virtual Reality: low-cost approaches for multi-viewer VR and educational applications.

Artificial Intelligence: applications of machine learning in natural language processing.

Grants and Awards

- Maytag Innovation Award for Student/Faculty Research, "Stereoscopic Visualization in the Science Classroom," 2005–2006

- Maytag Innovation Award for Student/Faculty Research, "Stereoscopic Imaging with a Remote Robot." 2003–2004

- Maytag Innovation Award for Student/Faculty Research, "Low-Cost, Multi- Mode, Stereographic VRML Rendering," 2002–2003

- Maytag Innovation Award for Student/Faculty Research, "Low-Cost, Multi-Viewer Stereoscopic Projection," 2000–2001.

- Iowa Space Grant Consortium Seed Grant for undergraduate research program, "Learning Natural Language Interfaces for Network Databases," 1997.

- Faculty Development Grant (Drake University College of Arts and Sciences), "A Computer Mini-Lab for Student Projects," 1997–98

- Grant from Daimler-Benz Corporation for research in automating the construction of natural language interfaces, 1996.

- Faculty Development Grant (Drake University College of Arts and Sciences), "Enhancing the Introductory Computer Science Curriculum," 1996–97.

- Schlumberger Fellowship for Academic Achievement, October 1994.

- Co-Principal Investigator NSF-ILI Grant, "Integrating Parallel Processing into the Undergraduate Computer Science Curriculum," 1989.

Publications

1. Zelle, J. M., "Python Programming: An Introduction to Computer Science," Franklin, Beedle, & Associates, 2004.

2. Zelle, J. M., and Figura, C. C., "Simple, Low-Cost Stereographics: VR for Everyone," accepted for *Thirty-fourth SIGCSE Technical Symposium on Computer Science Education*, March 3–7, 2004.

3. Zelle, J. M., "Python as a First Language," *Proceedings of the 13th Annual Midwest Computer Conference*, March 1999.

4. Ng, H.T., and Zelle, J. M., "Corpus-Based Approaches to Semantic Interpretation in Natural Language Processing," *AI Magazine*, 18(4):45–64, 1997.

5. Zelle, J.M., "Learning Natural Language Interfaces for Network Databases," *Proceedings of the Seventh Annual Iowa Space Grant Consortium Conference*, October 24, 1997, Drake University.

6. Zelle, J.M., and Mooney, R.J., "Learning to Parse Database Queries Using Inductive Logic Programming," *Proceedings of the Thirteenth National Conference on Artificial Intelligence*, pp. 1050–1056, August 1996

7. Zelle, J.M., and Mooney, R.J., "Comparative Results on Using Inductive Logic Programming for Corpus-Based Parser Construction," in *Symbolic, Connectionist, and Statistical Approaches to Learning for Natural Language Processing*, S. Wermter, E. Riloff, and G. Scheler (Eds.), Springer Verlag, 1996.

8. Zelle, J.M., Thompson C. A., Califf M. E., and Mooney R.J., "Inducing Logic Programs without Explicit Negative Examples," *Proceedings of the 5th International Inductive Logic Programming Workshop,* Leuven, Belgium, September 1995.

9. Zelle, J.M., and Mooney, R.J., "A Comparison of Two Methods Employing Inductive Logic Programming for Corpus-Based Parser Construction," *Working Notes of the IJCAI-95 Workshop on New Approaches to Learning for Natural Language Processing,* pp. 79–86, Montreal, Quebec, August 1995.

10. Zelle, J.M., and Mooney, R.J., "Inducing Deterministic Prolog Parsers from Treebanks: A Machine Learning Approach," *Proceedings of the Twelfth National Conference on Artificial Intelligence*, pp. 748–753, Seattle, WA, August, 1994.

11. Zelle, J.M., Mooney, R.J., and Konvisser, J.B., "Combining Top-Down and Bottom-Up Techniques in Inductive Logic Programming," *Proceedings of the Eleventh International Conference on Machine Learning*, pp. 343–351, New Brunswick, NJ, July 1994.

12. Mooney, R.J., and Zelle, J.M., "Integrating ILP and EBL," *Sigart Bulletin,* 5(1), 1994, pp. 12-21 (special issue on Inductive Logic Programming).

13. Zelle, J.M., and Mooney, R.J., "Combining FOIL and EBG to Speed-up Logic Programs," *Proceedings of the Thirteenth International Joint Conference on Artificial Intelligence*, pp. 1106–1111, Chambery, France, August 1993.

14. Zelle, J.M., and Mooney, R.J., "ILP Techniques for Learning Semantic Grammars," *Proceedings of the IJCAI-93 Workshop on Inductive Logic Programming,* Chambery, France, August 1993.

15. Zelle, J.M. and Mooney, R.J., "Learning Semantic Grammars with Constructive Inductive Logic Programming," *Proceedings of the Eleventh National Conference on Artificial Intelligence*, pp. 817-822, Washington, D.C., July 1993.

16. Zelle, J.M., "Learning Search-Control Heuristics for Logic Programs: Applications to Speed-up Learning and Language Acquisition," Technical Report AI93-200, Artificial Intelligence Laboratory, University of Texas at Austin, May 1993.

17. Zelle, J.M., and Mooney, R.J., "Speeding up Logic Programs by Combining EBG and FOIL," *Proceedings of the Machine Learning Workshop on Knowledge Compilation and Speedup Learning*, Aberdeen, Scotland, July 1992.

18. Baffes, P.T., and Zelle, J.M., "Growing Layers of Perceptrons: Introducing the Extentron Algorithm," *Proceedings of the International Joint Conference on Neural Networks*, pp. II-392-397, Baltimore, June 1992.

College/University Courses Taught

Computer Literacy and Applications
Introduction to Computer Programming (for non-majors)
Internet Programming
Introduction to Computer Science 1 & 2
Assembly Language and Computer Organization
Programming Language Concepts
Systems Analysis
Information Resource Management (Databases)
Algorithm Analysis and Data Structures
Artificial Intelligence
Software Engineering
Compiler Construction
Operating Systems Concepts
Perspectives in Computer Science (capstone)
Systems Design Project (senior research)
Java and Object–Oriented Programming

Computer Language Seminars: C++, LISP, Java-Swing, Prolog
Fundamentals of College Mathematics 1 & 2
Introductory Statistical Methods
Foundations of Science
Science for Society

Invited Lectures and Presentations

- "Simple not Simplistic: Squeezing the Most from CS1 with Python," Consortium for Computing in Small Colleges, Midwest Region, Denison University, Granville, OH, October 3, 2003.

- "Teaching Computer Science with Python," SIGCSE 2003 Workshop, February 20, 2003, Reno, Nevada.

- "Python in CS1 and CS2," Iowa Undergraduate Computer Science Consortium, Grinnell College, Fall 2002.

- Colloquium: "Machine Learning and Natural Language Processing," Iowa State University Department of Computer Science, October 9, 1997.

- Coordinator, moderator and participant for panel discussion: "Programming Languages for CS1," Iowa Undergraduate Computer Science Consortium, Simpson College, Indianola, IA, December 2, 1995.

- Informal presentation: "Preparation for College CS Curriculum," meeting of Des Moines area secondary technical education instructors, Des Moines, October 24, 1995.

- "Automatic Construction of Natural Language Interfaces," Computer Science Industrial Forum, Department of Computer Sciences, University of Texas at Austin, February 13, 1995.

Professional Service

- Program Committee member for the *Fourteenth International Conference on Machine Learning*, Nashville, TN, July 8–12, 1997.

- Program Committee member for the *Thirteenth National Conference on Artificial Intelligence*, Portland, OR, August 4-8, 1996.

- Article reviewer for technical papers in the journal *Machine Learning*.

- Reviewer of numerous papers for technical conferences: *National Conference on Artificial Intelligence* (1994, 1995), *International Joint Conference on Artificial Intelligence* (1995), *International Conference on Machine Learning* (1994, 1995), *International Workshop on Inductive Logic Programming* (1995).