Adam A. Smith
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Education

PhD Computer Science (2009)
University of Wisconsin, Madison
Dissertation: *Classification and Alignment of Gene-Expression Time-Series Data*

MS Computer Science (2002)
University of Wisconsin, Madison
Thesis: *Spread Spectrum Watermark Estimation Through Autocorrelation*

BA Computer Science/Mathematics (combined major) and Physics with Honors (1999), summa cum laude
Lewis & Clark College
Thesis: *A Computer Model of the Solar Magnetic Field*

Research Interests

My chief interests are in machine learning and its applications in bioinformatics. My thesis research has involved modeling, aligning, and classifying high-dimensional time series data, with a particular emphasis on gene-expression data. I have since moved to analyzing mouse vocalizations.

Publications

Adam A. Smith, Aaron Vollrath, Christopher A. Bradfield, and Mark Craven. Clustered alignments of gene-expression time series data. Presented at *2009 Conference on Intelligent Systems for Molecular Biology (ISMB)* (18% podium acceptance rate). Published in *Bioinformatics*, 25(12): i119i1127, May 2009.

Aaron Vollrath, Adam Smith, Mark Craven, and Christopher Bradfield. Edge3: A web-based solution for management and analysis of agilent two color microarray experiments. *BMC Bioinformatics* 10: 280+, 2009.

Adam A. Smith and Mark Craven. Fast multisegment alignments for temporal expression profiles. Presented at *2008 International Conference on Computational Systems Bioinformatics* (22% podium acceptance rate). Published in *Computational Systems Bioinformatics Proceedings*, volume 7, pages 315-326, 2008 Imperial College Press.

Adam A. Smith, Aaron Vollrath, Christopher A. Bradfield, and Mark Craven. Similarity queries for temporal toxicogenomic expression profiles. *PLoS Computational Biology*, 4(7):e1000116, July 2008.

Herschel B. Snodgrass and Adam A. Smith. On the use of correlations to determine the motions and properties of mesoscale magnetic features in the solar photosphere. *Astrophysical Journal*, 546:528-541, January 2001.

Herschel B. Snodgrass and Adam A. Smith. The effects of meridional motion on the determination of rotation by tracer tracking. *Solar Physics*, 191(1):21-35, January 2000.

Teaching

Adjunct Professor (Fall 2009 - Summer 2010)
Lewis & Clark College

Designed and taught courses in bioinformatics, computer architecture and assembly language, and intro CS.

Delta Certificate (Spring 2006 - Fall 2009)
`http://www.delta.wisc.edu/`
University of Wisconsin
Completed additional classes in pedagogy, as well as an internship with a local science museum in order to develop teaching tools.

Mentor (Summer 2007)
Computational Biology and Biostatistics Summer Research Program, University of Wisconsin
Acted as advisor to an undergraduate conducting original research related to mine, during a ten-week summer research program.

Exploration Station (Spring 2006)
Science Expeditions, University of Wisconsin
Developed and crewed an educational booth at a yearly science outreach fair. Used hands-on demonstrations to teach children about IR and UV light.

Instructor (Summer 2004)
Computational Biology and Biostatistics Summer Research Program, University of Wisconsin
Created and taught an intensive one-week bioinformatics course for undergraduates in a summer research program.

Teaching Assistant (Fall 2000)
Department of Computer Sciences, University of Wisconsin
Taught and designed lessons for weekly recitation sections for an intro programming course.

Physics Tutor (Fall 1997 - Spring 1999)
Department of Physics, Lewis & Clark College
Ran a twice-weekly walk-in help desk for physics and astronomy students, and taught review sessions.

Awards & Honors

Phi Beta Kappa (1999)
Barry M. Goldwater Scholar (1998)
Sigma Pi Sigma (Physics Honor Society) (1997)

References

Mark Craven *(advisor)*
Associate Professor, Departments of Biostatistics & Medical Informatics and Computer Sciences
University of Wisconsin, Madison
craven@biostat.wisc.edu
608-265-6181

Christopher Bradfield
Professor, Department of Oncology
University of Wisconsin, Madison
bradfield@oncology.wisc.edu
608-262-2024

Jude Shavlik
Professor, Departments of Computer Sciences and Biostatistics & Medical Informatics
University of Wisconsin, Madison
shavlik@cs.wisc.edu
608-262-7784

C. David Page
Professor, Departments of Biostatistics & Medical Informatics and Computer Sciences
University of Wisconsin, Madison
dpage@biostat.wisc.edu
608-265-6168

Jeffrey Ely *(teaching reference)*
Associate Professor, Department of Mathematical Sciences
Lewis & Clark College
jeff@lclark.edu
503-768-7561

Herschel Snodgrass
Professor, Department of Physics
Lewis & Clark College
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503-768-7584