

MARK HARLAN GOADRICH

Department of Mathematics and Computer Science
Centenary College of Louisiana
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EDUCATION

University of Wisconsin - Madison, Madison, WI, Computer Sciences, M.S., 2000, Ph.D., 2007

Kenyon College, Gambier, OH, Mathematics and Philosophy, B.A., 1998.

EMPLOYMENT

Assistant Professor, *Broyles Eminent Scholars Chair of Computational Mathematics*, Department of Mathematics and Computer Sciences, Centenary College of Louisiana, Shreveport, LA, 2007 - Present

Research Assistant, *with Professor Jude Shavlik*, Department of Computer Sciences, University of Wisconsin - Madison 2001 - 2007

Research on Inductive Logic Programming and Biomedical Information Extraction

Instructor, Department of Computer Sciences, University of Wisconsin - Madison, 2000 - 2001

Introduction to Artificial Intelligence, Summer 2001
Introduction to Programming in Java, Spring 2000, 2001

Teaching Assistant, Department of Computer Sciences, University of Wisconsin - Madison, 1998 - 2000, 2007

Introduction to Programming Languages, Spring 2007
Introduction to Artificial Intelligence, Spring, Summer, Fall 1999
Introduction to Computers, Fall 1998

Research Analyst, Southwest Research Institute, San Antonio, Texas, 2000

PUBLICATIONS

“Exploring the use of Android OS in CS2”, Mark Goadrich, Matthew Jadud and Jacob Jennings, *SMACK 2011, SmartPhones in the Curriculum Workshop, 24th IEEE Conference on Software Engineering Education and Training*, May 22, 2011, Waikiki, Honolulu, Hawaii.

“Colliding Galaxy Simulations”, Brandi Candler, Juan Rodriguez, Mark Goadrich, *Centenary College Student Research Forum Presentation*, April 15th 2011

“Development of Fire Fighting Rescue Robots in occam-pi”, Kathryn Hardey, Molly Mattis, Mark Goadrich, Matthew Jadud, *Centenary College Student Research Forum Poster*, April 14th 2011

“Constructing a Database for EEG Headsets”, Jackson Blankstein and Mark Goadrich, *Centenary College Student Research Forum Poster*, April 14th 2011

“Generating Pronounceable Nonsense Words”, Mark Goadrich, *Nifty Assignments Session, CCSC - Mid South Conference*, April 1-2 2011, Conway AR

“Smart Smartphone Development: iOS vs Android”, Mark Goadrich and Michael Rogers, *SIGCSE 2011, The 42nd ACM Technical Symposium on Computer Science Education*, March 9-12, 2011,

Dallas, TX.

“Analyzing 2-Player Babylon”, Mark Goadrich and Mark Schlatter, *Integers*, April 2011

“ADDER: Academic Degree Database Electronic Resource”, Bradlee Robertson, Kathryn Hardey, Mark Goadrich *Centenary College Student Research Forum*, April 23, 2010

“SmartSweeper: Neural Network for Minesweeper”, Nolan Baker, Mark Goadrich *Centenary College Student Research Forum*, April 23, 2010

“TopSpin and Communication/Origami” Mark Goadrich *Nifty Assignments Session, CCSC - Mid South Conference*, March 25-26 2010, Searcy AR.

“Design and Construction of an Automated Community Bicycle Loan/Return System”, Richard Lopez, Kenneth Roland Womack, Mark Goadrich and Troy C. Messina, *Centenary College Student Research Forum*, April 24, 2009

“Robocup Rescue: Artificial Intelligence and Controller for Virtual Robots”, Bradlee Robertson and Mark Goadrich, *Centenary College Student Research Forum*, April 23, 2009

“Developing Educational Software for the XO-1 (COBBLE, Space Tag, and Cell Management)”, Nolan Baker and Mark Goadrich, *Centenary College Student Research Forum*, April 23, 2009

“Python In Education” Birds of a Feather co-organizer, *ACM SIGCSE Technical Symposium on Computer Science Education*, Chattanooga, TN, March 5-7, 2009

“Design and Construction of an Automated Community Bicycle Loan/Return System”, Richard Lopez, Kenneth Roland Womack, Mark Goadrich and Troy C. Messina, *Society of Physics Students Zone 10 Annual Meeting*, Feb 28th, 2009

“Distinguishing Dactyls of Crab Species Using Relational Machine Learning,” with Jeffrey Agnew, *Geological Society of America Annual Meeting, Paleontology IV - Stratigraphy and Morphology*, October 8th, 2008

“Learning Comprehensible Relational Features to Distinguish Subfossil Decapod Crustacean Dactyls,” with Jeffrey Agnew, *24th International Conference on Inductive Logic Programming (ILP), Late Breaking Papers*, Prague Czech Republic, 10th - 12th September, 2008

“Learning Ensembles of First-Order Clauses that Optimize Precision-Recall Curves,” *Ph. D. Thesis*, University of Wisconsin - Madison, August, 2007.

“Combining Clauses with Various Precisions and Recalls to Produce Accurate Probabilistic Estimates,” with Jude Shavlik, *The Proceedings of the 17th International Conference on Inductive Logic Programming*, Corvallis, OR, June, 2007.

“The Relationship Between Precision-Recall and ROC Curves,” with Jesse Davis, *The Proceedings of the 23rd International Conference on Machine Learning*, Pittsburgh, PA, June 2006.

“Gleaner: Creating Ensembles of First-Order Clauses to Improve Recall-Precision Curves,” with Louis Oliphant and Jude Shavlik, *Machine Learning Journal*, Special Issue on ILP, Volume 64, pages 231-262, 2006.

“Learning to Extract Genic Interactions using Gleaner,” with Louis Oliphant and Jude Shavlik, *The Proceedings of the Learning Language in Logic Workshop at the International Conference on Machine Learning*, Bonn, Germany, July 2005.

“Learning Ensembles of First-Order Clauses for Recall-Precision Curves: A Case Study in Biomedical Information Extraction,” with Louis Oliphant and Jude Shavlik *Proceedings of the 14th International Conference on Inductive Logic Programming*, Porto, Portugal, September 2004.

“Model Robustness versus Parameter Evolution: Assortative Interaction in a Bargaining Game,” *In Proceedings of the NAACOS Methods, Toolkits and Techniques Section Workshop, AGENT 2003*, Chicago, IL, October 2003.

“Emergent Formation of Political Parties,” with Charles Franklin, Working paper, Spring 1999.

CURRICULUM DEVELOPMENT

Development of Node Living Learning Community - Fall 2011-Present

Introduction of Computational Mathematics track - Spring 2010

Revision of Computer Science minor - Spring 2008

Courses Taught:

Math 104	College Algebra	Fall 2007, 2008, 2010
Math 105	Finite Mathematics	Spring 2008
Math 107	Precalculus	Spring 2012
Math 220	Theory of Computing	Fall 2009, 2011
Math 305	Mathematical Statistics	Spring 2010
Math 310	Discrete Mathematics	Spring 2011
Math 311	Mathematical Models	Spring 2009
CSC 104	Programming I	Fall 2007
CSC 107	Explorations in Agent Based Modelling	Spring 2010, 2012
CSC 204	Programming II	Spring 2008
CSC 207	Introduction to Computer Science	Fall 2008, 2009, 2010, 2011
CSC 234	Data Structures and Algorithms	Spring 2009, 2010, 2011, 2012
CSC 254	Operating Systems	Fall 2007
CSC 277	Bioinformatics	Spring 2009, 2011
CSC 310	Databases	Fall 2009
CSC 350	Cryptology and Security	Fall 2008, 2011
CSC 396	Artificial Intelligence	Spring 2008, Fall 2010

STUDENT RESEARCH PROJECTS

Spring 2012, Jacob Jennings
μcas, A Computer Algebra System for iOS

Fall 2011 - Spring 2012, Kathryn Hardey
Designing Artificially Intelligent Players for Axiom

Fall 2011, Robert Poole
Simulation of Galaxy Collisions using High Performance Computing

Summer 2011 - Present, Michael Hoppe and Gerhardt Funk
Cogmality: A Location-Based RPG for Android

Spring 2011, Jackson Blankstein
Storage and Analysis of EEG data from the Emotiv Headset

Fall 2010, Jacob Jennings
Android4CS2 : Creating Android Resources for Data Structures Courses

Fall 2010 - Spring 2011, Brandi Candler
Simulation of Galaxy Collisions

Fall 2010 - Summer 2011, Kathryn Hardey and Eren Corapcioglu
Exploring and Evolving Subsumptive Control for Real and Virtual Rescue Robots
Co-PIs: Matt Jadud, Molly Mattis, Allegheny College.

Summer 2010, Jacob Jennings and Kathryn Hardey
Pherophone : Developing Ant-Based Communication for the Android Mobile OS

Spring 2010, Nolan Baker
SmartSweeper : Learning to Play Minesweeper using Neural Networks

Fall 2009 - Spring 2010, Bradlee Robertson and Kathryn Hardey
ADDER : Academic Degree Database Electronic Resource

Summer 2008 - 2009, Bradlee Robertson
Creating an Intelligent RoboCup Rescue Controller

Spring 2009, Naomi Will
Discrete versus Continuous Models for Predator/Prey Simulations

Summer 2008 - Spring 2009, Richard Lopez and Roland Womack
Designing an Automated Bicycle Checkout System

Summer 2008 - Fall 2008, Nolan Baker
Developing Educational Software for the OLPC Sugar OS

FUNDING

Extending Classroom Projection to Student Laptops
 2011 : \$300
 Centenary Muses

Intrinsic Mobile Motivation
 Co-Principal Investigator, 2010 – Present : \$7,700
 Co-PI: Matt Jadud
 Google Android Education Grant (in-kind grant of Motorola Droid phones)

Exploring and Evolving Subsumptive Control for Real and Virtual Rescue Robots
 Co-Principal Investigator, 2010 – 2011 : \$15,500
 Co-PIs: Molly Mattis*, Kathryn Hardey*, Eren Corapcioglu*, Matt Jadud
 Computing Research Association for Women, June 2010

SERVICE

Conference Chair - CCSC Mid-South 2012
 Session Chair - SIGCSE 2011
 Faculty Development Committee 2011-12
 Student Papers Co-Chair - CCSC Mid-South 2010-11
 Learning Resources Committee - Chair 2009-11
 Diversity Committee 2008-09
 Centenary Faculty Club - Chair 2009-10
 Natural Science Division Open House
 Advising of mathematics majors and computer science minors
 Faculty Advisor to the Mathematics and Computer Science Club
 Faculty Advisor to the Mathematics Contest in Modeling

PROFESSIONAL AFFILIATIONS

Sigma Xi, The Scientific Research Society
 Association for Computing Machinery (ACM)
 Special Interest Group for Computer Science Education (SIGCSE)
 Consortium for Computing Sciences in Colleges Mid-South Conference (CCSC)
 Consortium for Mathematics and Its Applications (COMAP)