PEDRITO MAYNARD-ZHANG
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EDUCATION

Stanford University, Stanford, CA
      PhD in Computer Science (2001)
          Dissertation: *Pedigreed Belief Change*
          Advisor: Prof. Yoav Shoham
          Committee: Prof. Daphne Koller, Prof. Ross Shachter
      MS in Computer Science (1999)

Walla Walla College, College Place, WA
      BSE in Electrical Engineering, *summa cum laude* (1994)
      (Minor in Mathematics)

TEACHING INTERESTS

Artificial intelligence (with specialization in knowledge representation and reasoning, machine learning, and multi-agent systems) and data structures. Other interests include algorithms, databases, software engineering, and cross-disciplinary studies.

TEACHING EXPERIENCE

Assistant Professor, Department of Computer Science & Systems Analysis (CSA), ***Miami University***, OH
    (2002 – 2005)
Taught highly-rated undergraduate and graduate courses in ABET-accredited Computer Science program. Designed course content, delivered lectures, created and graded problem sets and exams, and assisted students during and outside of office hours. Advised graduate students in their thesis research.

Courses taught:
- Data Abstraction and Data Structures – undergraduate/graduate (Java)
- Introduction to Artificial Intelligence – undergraduate/graduate (C++, Java)
- Machine Learning – graduate (C++, Java, C)
- Multi-Agent Systems – undergraduate/graduate (C++, Java)
- Multi-Agent Research Seminar – graduate

Undergraduate research supervised:
- Dustin Bornhorst – "Distributed Multi-Agent Information Integration" (Undergraduate Summer Scholar, Summer 2005)
- Yang Yang – "A Probabilistic Approach to Multi-Agent Localization in RoboCup Soccer" (Undergraduate Independent Studies, Spring 2004)

Masters theses supervised:
- Nithyalakshmi Nareshkumar – *Successive vs. Simultaneous Learning in Neural Networks* (Spring 2005, co-advised with Prof. Anthony Choi)
- Priya Thiagarajan – *Multi-Agent Localization via Belief Aggregation in RoboCup Soccer* (Spring 2005; currently at JPMorgan Chase)
- Jian Xu – *Iterative Aggregation of Bayesian Networks Incorporating Prior Knowledge* (Winter 2004; currently a PhD student at Louisiana State University)

Visiting Assistant Professor, CSA Department, *Miami University*, OH (Spring, 2002)
Taught "Data Abstraction and Data Structures" graduate course in C++. Delivered lectures, created and graded problem sets and exams, and assisted students during office hours.

Teaching Assistant, Computer Science Department, *Stanford University*, CA (1997 – 99)
Taught courses to undergraduate and graduate students. Assisted in course design, graded problem sets and exams, lead review sessions and problem sessions, helped students individually during office hours.

> *Courses:*
> * "Logic and Automated Reasoning" (Spring 1999 for Prof. Michael Genesereth)
> * "Artificial Intelligence: Principles and Techniques" (Autumn 1997 for Prof. Daphne Koller)

Teacher, English Department, *Zhanjiang Teachers' College*, Zhanjiang, P.R. of China (1994 – 95)
Designed and taught oral and written English courses to college English majors.

RESEARCH INTERESTS
My primary research interests focus around multi-agent problems such as information integration, multi-agent learning, and conflict resolution, drawing upon the following sub-areas of artificial intelligence: logical and probabilistic formalisms, machine learning, multi-agent systems, and cognitive robotics. I am particularly interested in cross-disciplinary collaboration and undergraduate research in these areas.

RESEARCH EXPERIENCE
Assistant Professor, CSA Department, Miami University, OH (2002 – 2005)
Led a group to conduct research in multi-agent problems. Co-initiated a project to develop a RoboCup Soccer Simulator lab for multi-agent research. Published finished work in peer-reviewed journals and conferences. Co-PI'd a $225,000 research grant from NASA. Participated in service committees at the department, school, and university levels.

Research Assistant, Computer Science Department, Stanford University, CA (1995 – 2001)
Investigated and designed methods for incorporating information from sources into one's beliefs given pedigree information about the sources. Co-developed a logic-based architecture for controlling a mobile robot. Published and presented results in peer-reviewed conferences. (Advisor: Prof. Yoav Shoham)

Research Assistant, NASA Ames Research Center, CA (Summer, 1997)
Investigated the use of common representations and abstraction in the Remote Agent automated spacecraft-control system. (Advisor: Dr. P. Pandurang Nayak)

Research Assistant, NASA Goddard Space Flight Center, MD (Summer, 1996)
Examined the role of knowledge representation issues in the AFLOAT multi-agent system and recommended design improvements. (Advisor: Dr. Walter Truszkowski)

GRANTS AWARDED
"Enhancing Engineering of Complex Systems through Rapid and Early Capture of Risk Issues and Agile Reasoning about these Issues" with Prof. James D. Kiper (PI) and Dr. Tim Menzies, FY 2003 NASA Engineering for Complex Systems Announcement NRA2-38150. Funded for $225,000 for one year.

"Multi-Agent Systems Laboratory Development," Miami University Assigned Research Appointment grant. Funded for Fall 2004 laboratory development research.

"Distributed Multi-Agent Information Integration for Medical Diagnosis" with Dustin Bornhorst (sophomore), Miami University Undergraduate Summer Scholars scholarship. Funded for Summer 2005 undergraduate research project.

INDUSTRY EXPERIENCE
Software Development Engineer II, Bing Local Search, Microsoft Corporation, WA (2008 – present)
Designed and developed machine learning-based software for local search, particularly in the areas of relevance, measurement,and data-processing. Implementation primarily in C#, C++, .NET, and SQL Server.

Software Development Engineer II, Customer Behavior, Amazon.com, WA (2006 – 2008)
Designed, implemented, and deployed high-impact machine learning-based customer-targeting tools used by retail and advertising customers in the company. Targeting features included geography, gender, and historical purchase behavior. Implementation primarily in Java, but included substantial work in shell script, MySQL, Perl, Javascript, JSP, etc.

Product Support Engineer (Co-op), Product Support, Microsoft Corporation, WA (1991 – 1992)
Provided technical support to customers via telephone and letters. Supported products included Microsoft Works and Flight Simulator.

ACADEMIC SERVICE
Thesis Committee member for the following Miami University masters students:
    2005 graduates: Norm Krumpke, Brad Snow
    2004 graduates: Mouin Hourani, Kurt Johnson, Ivan Svetlicic
University Honors & Scholars Program Advisory Committee member, Miami University (2004 – 2005)
Summer Orientation participant, Miami University (2004, 2005)
CSA Faculty Colloquium Series organizer, Miami University (2003 – 2005)
Graduate Committee member, CSA Department, Miami University (2003 – 2005)
Search&Screen Committee member, CSA Department, Miami University (2003)
Ad-hoc Benchmarking Committee member, School of Engineering, Miami University (2002 – 2003)
Black Data Processing Association (BDPA) student chapter advisor, Miami University (2002 – 2005)
Connected! program mentor, Office of Multicultural Student Enrichment, Miami University (2003 – 2004)
Caribbean Student Association co-organizer, Stanford University (1999)
Volunteer mentor and tutor to Stanford Engineering undergraduate and masters students (1996, 1998)
Walla Walla College 1994 Graduating class vice-president, Walla Walla College (1994)

PROFESSIONAL SERVICE
Referee for the following journals:
- ACM Transactions on Computational Logic (TOCL) (2002, 2003, 2008)
- Decision Analysis (2004)
- Journal of Artificial Intelligence Research (JAIR) (2000)

Program Committee member/reviewer for the following conferences:
- International Joint Conference on Artificial Intelligence (IJCAI) (2005)
- Midwest Artificial Intelligence & Cognitive Science Conference (MAICS) (2005)
- International Conference on Advances in Information Systems (ADVIS) (2004)
- National Conference on Artificial Intelligence (AAAI) (2004)
- Student Abstract track of AAAI (2004)
- Conference on Uncertainty in Artificial Intelligence (UAI) (2000, 2003)
- International Workshop on Non-Monotonic Reasoning (NMR) (2000)

HONORS
Amazon.com Inventor Award (2007)
National Physical Science Consortium Fellowship (1995 – 2001)
GTE Fellowship (1995 – 97)
Engineer-in-Training Certification (1994)
National Dean's List Award (1993 – 94)
IEEE Scholarship (1993)

REFEREED PUBLICATIONS
Note: Prior to 2002, my name was "Pedrito Maynard-Reid II."

Journal Publications:
Eyal Amir and Pedrito Maynard-Zhang. Logic-Based Subsumption Architecture. *Artificial Intelligence (AIJ)*, 153(1-2): 167-237, 2004.

Mouin Hourani, Mufit Ozden, Frank Moore, and Pedrito Maynard-Zhang. Genetic Algorithm Application to Clustering Problems, *WSEAS Transactions on Systems*, 3(3): 1045-1053, 2004.

Pedrito Maynard-Zhang and Daniel Lehmann. Representing and Aggregating Conflicting Beliefs. *Journal of Artificial Intelligence Research (JAIR)*, 19:155-203, 2003.

Pedrito Maynard-Reid II and Yoav Shoham. Belief Fusion: Aggregating Pedigreed Belief States. *Journal of Logic, Language, and Information*, 10(2): 183-209, 2001.

Conference Publications and Presentations:
Janet Burge, Valerie Cross, James Kiper, Pedrito Maynard-Zhang, Stephan Cornford. Enhanced Design Checking Involving Constraints, Collaboration, and Assumptions. *Proceedings of the 2nd International Conference on Design Computing and Cognition (DCC'06)*, Eindhoven, Netherlands, 655-674, 2006.

Bradford J. Snow, Pedrito Maynard-Zhang, and Eric Bachmann. A WiFi Based Personal Place Awareness System using Bayesian Learning. *Proceedings of the 16th Midwest Artificial Intelligence and Cognitive Sciences Conference (MAICS'05)*, Dayton, Ohio, 116-123, 2005.

Mouin Hourani, Mufit Ozden, Frank Moore, and Pedrito Maynard-Zhang. Genetic Algorithm Application to Clustering Problems, *Proceedings of the 4th WSEAS International Conference on Soft Computing, Optimization, Simulation, & Manufacturing Systems (SOSM'04)* in Miami, Florida, 2004. An earlier version appeared in *Proceedings of the 15th Midwest Artificial Intelligence and Cognitive Sciences Conference (MAICS'04)*, Chicago, Illinois, 138-147, 2004.

Pedrito Maynard-Reid II and Urszula Chajewska. Aggregating Learned Probabilistic Beliefs. *Proceedings of the 17th Conference on Uncertainty in Artificial Intelligence (UAI'01)*, Seattle, WA, 354-361, 2001.

Pedrito Maynard-Reid II and Daniel Lehmann. Representing and Aggregating Conflicting Beliefs. *Proceedings of the 7th International Conference on Principles of Knowledge Representation and Reasoning (KR'00)*, Breckenridge, CO, 153-164, 2000.

David M. Pennock, Pedrito Maynard-Reid II, C. Lee Giles, and Eric Horvitz. A Normative Examination of Ensemble Learning Algorithms. *Proceedings of the 7th International Conference on Machine Learning (ICML'00)*, Stanford, CA, 735-742, 2000.

Eyal Amir and Pedrito Maynard-Reid II. Logic-Based Subsumption Architecture. *Proceedings of the 16th International Joint Conference of Artificial Intelligence (IJCAI'99)*, Stockholm, Sweden, 147-152, 1999.

Pedrito Maynard-Reid II and Yoav Shoham. From Belief Revision to Belief Fusion. *Proceedings of the 3rd Conference on Logic and the Foundations of Game and Decision Theory (LOFT3)*, Torino, Italy, 1998.

Alvaro del Val, Pedrito Maynard-Reid II, and Yoav Shoham. Qualitative Reasoning about Perception and Belief. *Proceedings of the 15th International Joint Conference on Artificial Intelligence (IJCAI'97)*, Nagoya, Japan, 508-513, 1997.

Workshop and Symposia Publications and Presentations:

Jian Xu, Pedrito Maynard-Zhang, and Jianhua Chen. Incremental Integration of Probabilistic Models Learned from Data. *Proceedings of the Data Mining on Uncertainty Data Workshop (DUNE'07) of the 7th International Conference on Data Mining (ICDM'07)*, Omaha, NE, 519-526, 2007.

Martin S. Feather, Pedrito Maynard-Zhang, James D. Kiper. Modeling Uncertainty in Requirements Engineering Decision Support. *Proceedings of the Workshop on Requirements Engineering Decision Support (REDECS'05) of the 13th IEEE International Requirements Engineering Conference (RE'05)*, Paris, France, 2005.

Eyal Amir and Pedrito Maynard-Reid II. LiSA: A Robot Driven by Logical Subsumption. *Proceedings of the 5th Symposium on Logical Formalizations of Commonsense Reasoning (Common Sense'01)*, New York, NY, 2001.

Eyal Amir and Pedrito Maynard-Reid II. Logic-Based Subsumption Architecture. *Proceedings of the 1998 AAAI Fall Symposium of Cognitive Robotics*, Orlando, FL, 1-12, 1998.

ADDITIONAL SCHOLARLY PRESENTATIONS:

"Intelligent Integration of Probabilistic Beliefs from Learning Agents", University of Illinois, Urbana-Champaign, September 2004.

"Automating the Committee Meeting: Intelligent Integration of Information from Diverse Sources," Computer Science Department Colloquium, University of Dayton, OH, October 2003.

"Automating the Committee Meeting: Intelligent Integration of Information from Diverse Sources," Center for Computational Sciences Seminar, University of Kentucky, KY, October 2003.

"Automating the Committee Meeting: Intelligent Integration of Information from Diverse Sources," CSA Faculty Colloquium, Miami University, OH, October 2002.

"Logic-Based Subsumption Architecture," RIACS Seminar, NASA Ames Research Center, CA, June 2000.

"From Belief Revision to Belief Fusion," Nobots Seminar, Stanford University, CA, February 1998.

REFERENCES

Available on request