

PEDRITO MAYNARD-ZHANG

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OBJECTIVE

Software development engineering position where I can leverage and grow my extensive experience of building high-quality software for domains where artificial intelligence techniques such as machine learning are harnessed to deliver superior experiences to customers.

EDUCATION

- | | | |
|------|---|---------------------------------|
| 2001 | PhD , Computer Science
Dissertation: <i>Pedigreed Belief Change</i>
Advisor: Prof. Yoav Shoham | Stanford University , CA |
| 1999 | MS , Computer Science | Stanford University , CA |
| 1994 | BSE , Electrical Engineering, <i>summa cum laude</i>
Minor, Mathematics | Walla Walla College , WA |

WORK EXPERIENCE

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|----------------|---|--|
| 2008 - present | Software Development Engineer , Bing Local Search, <i>Microsoft Corporation</i> , WA
Designed, developed, and deployed high-quality software for local search projects spanning the areas of relevance, measurement, and content. Developed primarily in C#/.NET, C++, SQL, and MapReduce-based environment. Sample projects and roles: <ul style="list-style-type: none">▪ Designed and trained a classifier to identify and filter out false positive business entity results for local-intent queries.▪ Overhauled the process of creating synthetic training data from click data for the local search relevance rankers, resulting in a significant relevance gain.▪ Served as technical lead for the relevance measurement development team. Built and improved all measurement pipeline components including query set sampling, search engine scraping, human labeling, metrics calculation and reporting, and data analysis.▪ Designed and built tools for sampling and labeling cluster data for training and measuring data conflation.▪ Streamlined the process and tooling for handling user feedback for local queries. Hired and managed vendor resources to help with triaging issues, reporting, and follow-up.▪ Trained conditional random field (CRF) structure predictors for labeling queries in the Spanish markets of Spain and Argentina, resulting in improved relevance metrics. | |
| 2010 - 2013 | Adjunct Faculty , Computer Science Department, <i>Seattle University</i> , WA
Taught highly-rated graduate/undergraduate introductory artificial intelligence courses. | |
| 2006 - 2008 | Software Development Engineer , Customer Behavior, <i>Amazon.com</i> , WA
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. Developed primarily in Java, but did substantial work in shell script (e.g., ZSH, Perl), Javascript, JSP, etc. | |
| 2002 - 2005 | Assistant Professor , Computer Science Department, <i>Miami University</i> , OH
Taught highly-rated graduate/undergraduate courses including machine learning, artificial intelligence, and data structures. Advised graduate students in their thesis research. 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. Developed software in Java, C++, C, and Matlab to support courses and research. | |

PEDRITO MAYNARD-ZHANG

- 1995 - 2001 **Research Assistant**, Computer Science Department, *Stanford University*, CA
Conducted original research in projects including combining information from heterogeneous sources and logic-based robotics. Published and presented results in peer-reviewed conferences.
- 1997 - 1999 **Teaching Assistant**, Computer Science Department, *Stanford University*, CA
Assisted in teaching graduate/undergraduate artificial intelligence courses.
- 1997 (Summer) **Research Assistant**, Ames Research Center, *NASA*, CA
Investigated the use of common representations and abstraction in the Remote Agent automated spacecraft-control system. (*Supervisor*: Dr. P. Pandurang Nayak)
- 1996 (Summer) **Research Assistant**, Goddard Space Flight Center, *NASA*, MD
Examined the role of knowledge representation issues in the AFLOAT multi-agent system and recommended design improvements. (*Supervisor*: Dr. Walter Truszkowski)

SPECIALTY AREAS OF INTEREST

Artificial intelligence, multi-agent systems & social computing, machine learning, probabilistic and logical formalisms (e.g., Bayesian networks), cognitive robotics

SKILLS

- **Software Development Skills:**
Programming languages: C#/.NET, Java, C++, shell scripting (e.g., ZSH, Perl), Javascript, MATLAB, Prolog
Platforms: Windows, Linux/UNIX, Microsoft-internal MapReduce environment
Tools: SQL Server, MySQL, Perforce, JUnit, Log4j, etc.
- **Leadership Experience:**
Technical lead – Bing Local Search Relevance Measurement team (2010-2012)
Mentor – New hires, Bing Local Search (2011-2014)
Mentor – Interns, Amazon.com (2006, 2008)
Advisor – Black Data Processing Association, Miami University (2002-2005)
Co-organizer – Caribbean Student Association, Stanford University (1999)
- **Communication Skills:**
Writing includes technical publications in refereed journals and conferences.
Speaking includes technical conference presentations and classroom lectures.

PATENTS

- Pedrito Maynard-Zhang, Daniel Lloyd, Llewellyn J. Mason, Samuel A. Minter. 2011. Predicting geographic location associated with network address. U.S. Patent 7,937,336, issued May 3, 2011.

HONORS AND AWARDS

- Amazon.com Inventor Award (2007)
- National Physical Science Consortium Fellowship (1995-2001)
- GTE Fellowship (1995-1997)
- Engineer-in-Training Certification (1994)
- National Dean's List Award (1993-1994)
- IEEE Scholarship (1993)

ADDITIONAL INFORMATION

- **Languages:**
Intermediate in Spanish, beginner in Mandarin Chinese
- **Foreign Countries of Residence:**
Jamaica, Puerto Rico, P.R. of China
- **Hobbies:**
Traditional Chinese kung fu, hiking, jigsaw puzzles

REFEREED PUBLICATIONS

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, May 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: (♣ indicates I presented at the corresponding conference)

- 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 Seventeenth 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 Seventh 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 Seventh 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 Sixteenth 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 Third 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 Fifteenth International Joint Conference on Artificial Intelligence (IJCAI'97)*, Nagoya, Japan, 508-513, 1997. (♣)

Symposia Publications:

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