

# Adel Ardalan

## Curriculum Vitæ

Department of Computer Sciences  
University of Wisconsin-Madison  
1210 W. Dayton St., Madison, WI 53706  
adel@cs.wisc.edu  
<http://cs.wisc.edu/~adel/>

### Education

- 2017 **Ph.D. in Computer Sciences**, University of Wisconsin-Madison.  
(Expected) Thesis Title: Large-Scale Information Extraction Using Rules, Machine Learning and Crowdsourcing
- 2008 **M.Sc. in Information Technology**, University of Tehran, Iran.  
Thesis Title: Bioinformatic Database Integration Using a Data Fusion Approach
- 2005 **B.Sc. in Computer Software Engineering**, University of Tehran, Iran.
- 2000 **High School Diploma in Mathematics and Physics**, National Organization for Development of the Exceptional Talents (NODET), Kermanshah, Iran.

### Research Interests and Activities

- Large-scale human-in-the-loop information extraction and integration with applications in healthcare
  - Hybrid machine-human clustering for attribute value normalization
  - Highly scalable event extraction in the Twittersphere from legacy tweet stores
  - Slot filling for TAC/MR-KBP using logistic regressors on large-scale data
- Computational systems biology, mathematical modeling and bioinformatics
  - Empirical topology for analyzing the dynamics in complex systems
  - Protein identification/quantification from (tandem) mass spectrometry data
- Artificial intelligence, machine learning and numerical optimization

### Publications

- P. Konda, S. Das, P. S. G. C., A. Doan, A. Ardalan, J. Ballard, H. Li, F. Panahi, H. Zhang, J. Naughton, S. Prasad, G. Krishnan, R. Deep, and V. Raghavendra. Magellan: Toward Building Entity Matching Management Systems. *VLDB'16*.
- P. Konda, S. Das, P. S. G. C., A. Doan, A. Ardalan, J. Ballard, H. Li, F. Panahi, H. Zhang, J. Naughton, S. Prasad, G. Krishnan, R. Deep, and V. Raghavendra. Magellan: Toward Building Entity Matching Management Systems over Data Science Stacks. *VLDB'16*, (demo).
- A. Ardalan, W. Cai, and A. Doan. Attribute Value Normalization: A Machine-Human Approach. Under Preparation.
- A. Ardalan, Q. Wan, N. Garera, A. Doan, and J. Patel. Scalable Event Extraction from the Twittersphere. Under Preparation.

- B.-Q. Vuong, A. Ardalán, X. Chai, A. Doan, and J. Naughton. “Normalizing” Structured Data in Wikis: A View-Based Approach. Under Preparation.
- X. Chai, O. Deshpande, N. Garera, A. Gattani, W. Lam, D. S. Lamba, L. Liu, M. Tiwari, M. Tourn, Z. Vacheri, S. Prasad, S. Subramaniam, V. Harinarayan, A. Rajaraman, A. Ardalán, S. Das, P. S. G. C., and A. Doan. Social Media Analytics: The Kosmix Story. *IEEE Data Eng. Bull.*, 36(3):4-12, 2013.
- A. Sangari, A. Ardalán, L. Lambe, H. Eghbalnia, and A. H. Assadi. Mathematical Analysis and Computational Integration of Massive Heterogeneous Data from the Human Retina. In *DoCEIS*, volume 372 of *IFIP Advances in Information and Communication Technology*, pages 571-578. Springer, 2012.
- A. Ardalán, E. S. Selen, H. T. Dashti, A. Talaat, and A. H. Assadi. Design and Applications of Intelligent Systems in Identifying Future Occurrence of Tuberculosis Infection in Population at Risk. In *DoCEIS*, volume 349 of *IFIP Advances in Information and Communication Technology*, pages 117-128. Springer, 2011.
- H. T. Dashti, A. Ardalán, A. F. Siahpirani, J. Tonejc, I. V. Uilecan, T. Simas, B. Miranda, R. A. Ribeiro, L. Wang, and A. H. Assadi. Pattern Recognition in Collective Cognitive Systems: Hybrid Human-Machine Learning (HHML) by Heterogeneous Ensembles. In *The 2010 International Conference on Artificial Intelligence (ICAI)*, pages 183-188. CSREA Press, 2010.
- H. T. Dashti, J. Tonejc, A. Ardalán, A. F. Siahpirani, S. Guettes, Z. Sharif, L. Wang, and A. H. Assadi. Applications of Machine Learning Methods to Quantifying Phenotypic Traits That Distinguish the Wild Type from the Mutant Arabidopsis Thaliana Seedlings During Root Gravitropism. In *The 2010 International Conference on Bioinformatics & Computational Biology (BIOCOMP)*, pages 49-54. CSREA Press, 2010.
- A. Sabouri, A. Ardalán, and R. Shahidi-Nejad. Prediction of Protein Secondary Structure Based on NMR Chemical Shift Data using Support Vector Machines. In *UKSim*, pages 201-205. IEEE Computer Society, 2010.
- M. Emadi, M. Rahgozar, A. Ardalán, A. Kazerani, and M. M. Ariyan. A Comparative Study of DTD-Independent XML Data Storage Approaches. In *11th International CSI Computer Conference (CSICC)*, pages 624-628, 2006.
- M. Emadi, M. Rahgozar, A. Ardalán, A. Kazerani, and M. Ariyan. Storage Approaches for DTD-Independent XML Data. In *14th Iranian conference on Electrical Engineering (ICEE) - IEEE*. IAEEEE, 2006.
- M. Emadi, M. Rahgozar, A. Ardalán, A. Kazerani, and M. M. Ariyan. Approaches and Schemes for Storing DTD-Independent XML Data in Relational Databases. *Trans. on Engineering, Computing and Technology*, 13, 2006.

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## Work Experience

- 2012-Present **Research Assistant**, Department of Computer Sciences, University of Wisconsin-Madison.  
Supervisor: AnHai Doan
- Large-scale human-in-the-loop information extraction and integration
  - Attribute value extraction from product titles in e-commerce catalogs
  - Event extraction in the Twittersphere from legacy tweet stores
- 2011 **Research Assistant**, Department of Mathematics, University of Wisconsin-Madison.  
Supervisor: Amir H. Assadi
- Systems biology of Mycobacterium Tuberculosis for preventive and personalized medicine
- 2011 **Research Assistant**, Department of Computer Sciences, University of Wisconsin-Madison.  
Supervisor: Christopher Ré
- Machine reading project, slot filling task, feature extraction using logistic regression
- 2014 **Summer Intern**, @WalmartLabs, Mountain View, CA.
- Working with Product Classification and Segmentation (PCS) team on attribute value extraction from product titles in e-commerce catalogs
- 2012 **Teaching Assistant**, Department of Computer Sciences, University of Wisconsin-Madison.  
Introduction to Programming (CS 302)
- 2011-2012 **Teaching Assistant**, Department of Mathematics, University of Wisconsin-Madison.  
Calculus I and II (Math 221 and Math 222)
- 2002-2009 **Teaching Assistant**, Department of Electrical and Computer Engineering, University of Tehran, Iran.  
Fundamentals of Databases, Database Laboratory, Artificial Intelligence
- 2009 **Analyst and Developer**, Payamafzar Peykasa, Tehran, Iran.  
Building a multimedia messaging system for real-time application based on 3GPP and OMA standards
- 2007 **Consultant**, Iranian Power Market, Tehran, Iran.  
Data modeling and database design

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## Honors and Awards

- 2004 Award for academic excellence, ranked in top 3 student GPAs, class of 2000, Electrical and Computer Engineering Department, University of Tehran, Iran
- 2003 Award for academic excellence, ranked in top 3 student GPAs, class of 2000, Electrical and Computer Engineering Department, University of Tehran, Iran
- 2000 Ranked 67 out of approximately 140,000 students taking the Iranian university entrance exam (zone #2)

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## Professional Services

- 2016 **External Reviewer**, 42nd International Conference on Very Large Data Bases (VLDB 2016).
- 2015 **External Reviewer**, The Journal of Supercomputing, Springer.
- 2013 **External Reviewer**, The Journal of Supercomputing, Springer.
- 2013 **External Reviewer**, Data Engineering Bulletin Special Issue on Social Media and Data Analysis, IEEE Computer Society.

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## Technical Skills

- Programming languages and modeling tools: Java, Python, C++, SQL, Matlab
- Distributed processing frameworks: Hadoop, Amazon Web Services, Condor
- Web development: Django Framework, Play Framework, Javascript and D3.js
- Database management systems: Oracle, Microsoft SQL Server, PostgreSQL, MySQL
- Operating systems: Linux, Windows, Mac OS

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## Personal Activities and Hobbies

- Music and Iranian traditional music
- Dance - Played Persian frame drum (Daf) for 20 years  
- Played ancient middle-eastern lute (Tambur) for 10 years  
- Performed in several concerts on drums and lute  
Argentine tango
- Reading Philosophy, sociology and semiotics (Barthes, de Saussure, etc.)  
Literature, particularly Iranian poetry
- Workout Running (finished several half-marathons, training for my first marathon)

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## Languages

English, Farsi, Kurdish

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## References

Available on request.