Adel Ardalan

Curriculum Vitæ

Department of Computer Sciences
University of Wisconsin-Madison
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http://cs.wisc.edu/~adel/

Education

2018 (Expected) **Ph.D. in Computer Sciences**, University of Wisconsin-Madison.
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

- A. Doan, A. Ardalan, J. Ballard, S. Das, Y. Govind, P. Konda, H. Li, E. Paulson, P. Suganthan G.C., H. Zhang. Toward a System Building Agenda for Data Integration. *ArXiv'17*.
- A. Doan, A. Ardalan, J. Ballard, S. Das, Y. Govind, P. Konda, H. Li, S. Mudgal, E. Paulson, P. S. G. C., H. Zhang. Human-in-the-Loop Challenges for Entity Matching: A Midterm Report. *HILDA'17*.
- 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. Ardalan, 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. Ardalan, 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. Ardalan, 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. Ardalan, 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. Ardalan, 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. Ardalan, 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. Ardalan, 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. Ardalan, A. Kazerani, and M. M. Arian. 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. Ardalan, A. Kazerani, and M. Ariyan. Storage Approaches for DTD-Independent XML Data. In *14th Iranian conference on Electrical Engineering (ICEE) - IEEE*. IAEEE, 2006.

- M. Emadi, M. Rahgozar, A. Ardalan, 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.

Work Experience

2017 **Lecturer**, Department of Computer Sciences, University of Wisconsin-Madison.
Database Management Systems: Design and Implementation (CS 564)

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

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)

Professional Services

2017 **External Reviewer**, ACM SIGMOD/PODS International Conferecne on Management of Data (SIGMOD 2018).

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.

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

Personal Activities and Hobbies

Music and Dance	Iranian traditional music - 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 (esp. works of R. Barthes) Literature, particularly Iranian poetry
Workout	Running (finished several half-marathons and Madison marathon 2016, training for my second marathon) Triathlon (finished Door County Half Ironman 2016 and 2017, several sprint distance races)

Languages

English, Farsi, Kurdish

References

Available upon request.