

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

- 2018 Ph.D. in Computer Sciences, University of Wisconsin-Madison.
(Expected) Dissertation Title: Large-Scale Information Extraction Using Rules, Machine Learning and Crowdsourcing
- 2008 M.Sc. in Information Technology, University of Tehran, Iran.
Thesis Title: Bioinformatics Database Integration Using a Data Fusion Approach
- 2005 B.Sc. in Computer Software Engineering, University of Tehran, Iran.

Research Interests and Activities

- Human-in-the-loop data analytics and information extraction with applications in data cleaning and integration
 - Hybrid machine-human value normalization for data cleaning with accuracy guarantee
 - Highly scalable event extraction in the Twittersphere from legacy tweet stores
 - Slot filling for TAC/MR-KBP using logistic regressors
- Machine learning and mathematical modeling with applications in cognitive and neurosciences, computational systems biology, and bioinformatics
 - Empirical topology for analyzing the dynamics in complex systems
 - Hardware-software co-design for large-scale data analytics
 - Analysis of motor kinematics data for diagnosis and treatment of motor deficiencies in young adults with autism spectrum disorder (ASD)
 - Protein identification/quantification from (tandem) mass spectrometry data

Publications

- A. Ardalan, W. Cai, A. Doan and Y. Park. Value Normalization: Toward an RDBMS-Style Solution That Minimizes Human Time. *Under submission*.
- P. Suganthan G. C., A. Ardalan, A. Doan, A. Akella, Y. Park, G. Krishnan, R. Deep, V. Raghavendra. String Similarity Joins Using Random Forest Conditions. *Under submission*.
- D. Mahajan, J. K. Kim, J. Sacks, A. Ardalan, A. Kumar and H. Esmaeilzadeh. In-RDBMS Hardware Acceleration of Advanced Analytics. *Submitted to Intl. Conf. on Very Large Data Bases*, 2018.
- 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*, 2017, *Invited to Special Issue, IEEE Data Eng. Bull.*
- A. Doan, A. Ardalan, J. Ballard, S. Das, Y. Govind, P. Konda, H. Li, S. Mudgal, E. Paulson, P. Suganthan G. C., H. Zhang. Human-in-the-Loop Challenges for Entity Matching: A Midterm Report. *Workshop on Human-in-the-loop Data Analytics*, 2017.

- P. Konda, S. Das, P. Suganthan G. C., A. Doan, A. Ardalán, 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. *Intl. Conf. on Very Large Data Bases*, 2016.
- P. Konda, S. Das, P. Suganthan G. C., A. Doan, A. Ardalán, 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. *Intl. Conf. on Very Large Data Bases*, (demo), 2016.
- 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. Suganthan 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. *Doctoral Conf. on Computing, Electrical and Industrial Systems*, 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. *Doctoral Conf. on Computing, Electrical and Industrial Systems*, 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. *Intl. Conf. on Artificial Intelligence*, 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. *Intl. Conf. on Bioinformatics & Computational Biology*, 2010.
- A. Sabouri, A. Ardalán, and R. Shahidi-Nejad. Prediction of Protein Secondary Structure Based on NMR Chemical Shift Data using Support Vector Machines. *Intl. Conf. on Computer Modeling and Simulation*, 2010.
- M. Emadi, M. Rahgozar, A. Ardalán, A. Kazerani, and M. M. Ariyan. A Comparative Study of DTD-Independent XML Data Storage Approaches. In *Intl. CSI Computer Conf.*, 2006.
- M. Emadi, M. Rahgozar, A. Ardalán, A. Kazerani, and M. Ariyan. Storage Approaches for DTD-Independent XML Data. *Iranian Conf. on Electrical Engineering*, 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*, 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.
 - Attribute value extraction from product titles in e-commerce catalogs, in collaboration with Product Classification and Segmentation (PCS) team
- 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 Conference 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: Python, Java, C++, Cython, HTML, JavaScript, SQL, Matlab, Git
- Data science tools: Pandas, Scikit-learn, Numpy, Matplotlib, Dask
- Distributed processing frameworks: Hadoop, Amazon Web Services, Google Cloud Platform, Condor
- Web development frameworks: Django Framework, Play Framework, D3.js
- Database management systems: PostgreSQL, MySQL, Oracle, Microsoft SQL Server
- Operating systems: Linux, Windows, Mac OS

Personal Activities and Hobbies

- Music and Dance
 - Iranian traditional music – play Daf (Persian frame drum), Tambur (ancient middle-eastern lute), and perform in various venues and concerts
 - 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, and training for my second marathon)
 - Triathlon (finished Door County Half Ironman 2016 and 2017, and several sprint distance races)

Languages

English, Farsi, Kurdish

References

Available upon request