

# Ayoub Bagheri

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& UMC Utrecht

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## Research Interests

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*Machine Learning    Natural Language Processing    Data Science*

*Deep Learning    Medical Data Mining*

## Education

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- 2017-2019 **Ph.D.**, Methodology and Statistics, Utrecht University, NL.  
*Machine learning for healthcare applications.*
- 2009-2014 **Ph.D.**, Computer Science, Artificial Intelligence, Isfahan University of Technology and University of Twente, IR & NL.  
*Aspect-based Sentiment Analysis for Online Reviews Based on Weakly Supervised Approaches. GPA: 18.02 (20)*
- 2007-2009 **M.Sc.**, Computer Science, Artificial Intelligence, Isfahan University of Technology, IR.  
*Feature selection for Persian and English Text classification. GPA: 18.12 (20)*
- 2003-2007 **B.Sc.**, Computer Science, Software engineering, Ferdowsi University of Mashhad, IR.

## Grant Proposals

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- 2019 *CONVOCALS: a CONVOLutional neural network to predict symptoms and major secondary CardiovascuLar events based on high-resolution scanned histological Slides, **UMCU, the Netherlands.***
- 2019 *A data mining-based workbench for UK Biobank: advancing precision medicine by the use of machine learning and expert knowledge, **UMCU, the Netherlands.***
- 2019 *Machine learning techniques to predict worsening of diastolic dysfunction in patients from an outpatient clinic, **UMCU, the Netherlands.***
- 2018 *Deep neural networks for icd-10 classification of diagnosis registration in cardiovascular notes to allow data mining in electronic health records, **UMCU, the Netherlands.***
- 2013 *Integrated decision support systems for municipal spatial data, **Isfahan, Iran.***

## Employment History

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- 12/2017 – **Researcher (data scientist)**, Department of Cardiology, Division of Heart and Lungs University Medical Center Utrecht, NL.
- 12/2017 – **PhD researcher**, Department of Methodology and Statistics, Utrecht University, NL.
- 01/2015 – **Assistant Professor**, Department of Electrical and Computer Engineering, University of Kashan, IR.  
11/2017
- 04/2013 – **Database & Software Consultant**, Naghsheh Negar Arya Corporation, Isfahan, IR.  
08/2015
- 04/2011 – **Software Consultant**, Arya Polymer Pishgam Corporation, Isfahan, IR.  
08/2015
- 05/2010 – **Programmer**, Nasle Ayandeh Sepahan Corporation, Isfahan, IR.  
04/2011

## Teaching History

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### Courses

- 2019 Big Data in Health Research (NLP and Machine learning), Utrecht Summer School.
- 2019 Data Science: Statistical Programming with R, Utrecht Summer School.
- 2018 - 2019 Data Analysis and Visualization, Utrecht University (<http://uudav.nl/>).
- 2018 Big Data in Health Research (NLP and Machine learning), Utrecht Summer School.
- 2017 Web Mining and Search Engines, University of Kashan.
- 2017 Advanced Data Mining, University of Kashan.
- 2016 Introduction to Machine Learning, Aghigh Institute of Higher Education.
- 2015 Algorithm Design, University of Kashan.
- 2015 Advanced C++ Programming, University of Kashan.
- 2014-2017 Advanced Database Systems, University of Kashan.
- 2014 Data Mining, Aghigh Institute of Higher Education.
- 2013-2017 Data Structures & Algorithms in C++, University of Kashan.
- 2012 Advanced Data Mining, Isfahan University of Technology.
- 2010-2012 Introduction to Programming, Isfahan University of Technology.

### Supervising / Advising

- Ph.D. Zeinab Sedighi (Concordia University / University of Kashan) on *Representation learning based opinion spam detection*.  
(2016-)
- Ph.D. Mahsa Afsharizade (University of Kashan / Tilburg University) on *Text summarization using deep learning based sentence extraction*.  
(2016-)
- Ph.D. Elham Tabatabaei (Azad University, Isfahan) on *The effect of cognitive rehabilitation on frontal and parietal lobes in schizophrenia: an intervention based on Artificial Intelligence*.  
(2017-)
- M.Sc. Hajar Falaki Nafchi (Aghigh Institute of Higher Education), on *Word sense disambiguation using the combination of semantic similarity algorithms with word embedding methods*.  
(2017-2019)
- M.Sc. Atiye Jabalameli Foroushani (University of Kashan), on *a focused crawler method based on machine learning using a content similarity strategy*.  
(2017-2019)
- M.Sc. Shima Sayyar (University of Kashan), on *Sentiment analysis in the document-level using rhetorical structure theory*.  
(2017-2019)
- M.Sc. Ghosoon Alsuraifi (University of Kashan), on *A random walk graph-based approach for word sense disambiguation*.  
(2017-2018)
- M.Sc. Asma Dastmardi (Aghigh Institute of Higher Education), on *Spam email detection using text classification methods*.  
(2014-2015)
- M.Sc. Shiva Nadi (Azad University, Najafabad), on *A data mining based hybrid recommender system for web users*.  
(2010-2011)
- B.Sc. Javad Maleki (University of Kashan), on *Neural network evaluation on sentiment analysis for online reviews*.  
(2017)

### Awards & Achievements

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- 2017 **Teaching Award**, IR.  
Award for the best teacher of the year in computer engineering, University of Kashan.
- 2014 **National Elites Foundation**, IR.  
Honored with membership of Iran's National Elites Foundation, 2014.
- 2013 **MS PhD Grant**, IR.  
Awarded PhD Grant from Iran Ministry of Science, 2013.
- 2012 **Research Scholarship**, IR.  
Funded Sabbatical study for six months from Iran Ministry of Science for University of Twente (Human Media Interaction group), NL.
- 2009 **Top Rank**, IR.  
Placed 2nd among all of computer engineering MSc students at Isfahan University of Technology.
- 2007 **Top Rank**, IR.  
Placed 149th among more than 7000 participants in the university entrance exam.

## Language skills

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English (Fluent)      Dutch (B1 Level, in progress)

## Talks

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- 2019 **Machine Learning For Predictive Analytics & Missing-data Imputation**, ERA Consortium meeting Detectin HF, Netherlands Heart Institute, NL.
- 2019 **NLP for Healthcare Applications: Learning to classify cardiovascular notes using background knowledge with SALTClass Python package**, SIG Machine Learning in Healthcare, UMCU, NL.
- 2019 **Machine Learning, Introduction in Healthcare Research**, Division of Heart and Lungs, University Medical Center Utrecht, NL.
- 2018 **Machine Learning for Text**, Applied Data Science Summit, Utrecht University, NL.
- 2018 **NLP for Cardiovascular Notes**, BigData@Heart Annual Meeting, Bayer, Berlin, Germany.
- 2018 **Text Mining Applied to Clinical Notes**, Kick-off Meeting Special Interest Group Text Mining, Utrecht University, NL.
- 2018 **Text Mining for the Social Sciences**, MSDSLAB Meeting, Methodology and Statistics, Utrecht University, NL.
- 2016 **Data Mining Opportunities**, University of Kashan, IR.
- 2014 **Latent Dirichlet Allocation for Persian Sentiment Analysis**, Isfahan University of Technology, IR.
- 2014 **Applying Data Mining for Oil Companies**, National Iranian Oil Company, IR.
- 2012 **Sentiment Analysis for Online Reviews**, Human Media Interaction Group, University of Twente, NL.

## Academic Service

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- 2018 - **Organiser of the Deep Learning Reading group**, Department of Methodology and Statistics, Utrecht University, NL.
- 2018 - **Member of the Open Science Community Utrecht**, Utrecht, NL.
- 2017 - **Member of the MSDSLab**, Department of Methodology and Statistics, Utrecht University, NL.
- 2015 - 2017 **Organiser of the Text Mining Research group**, Department of Electrical and Computer Engineering, University of Kashan, IR.
- 2013 - 2014 **Head of Computer Science group**, Aghigh Institute of Higher Education, Isfahan, IR.
- 2013 - **Journal reviewer.**  
Knowledge-Based Systems, SAGE Journal of Information Science, Artificial Intelligence Review, Journal of Experimental & Theoretical Artificial Intelligence, Soft Computing Journal.

## Qualifications and Expertise

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- High value placed on teamwork, flexibility, and quality interpersonal communication
- Strong willingness to organize scientific events, research and teaching seminars
- Strong willingness to partake in scientific and departmental committees.
- Strong analytical, conceptual, and organizational skills
- Prompt in planning and implementing agreed-upon proposals and ideas
- Expert knowledge and great experiences in teaching, analysis and programming with:  
Python (CoreNLP, NLTK, Keras, Pytorch, Tensorflow), Jupyter notebook, R Language, Clementine, Orange, Weka, JASP, Jamovi.

## Publications

See also: [Google Scholar](#)

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### Journals

- 2019 **A. Bagheri**, D. Oberski, P.G.M. van der Heijden, A. Sammani, and F.W. Asselbergs. "*Enrichment by Topic Modeling (ETM) for Automated Short Text Classification of Clinical Cardiovascular Notes.*", IEEE Transactions on Industrial Informatics, Second Revision.
- 2019 A. Sammani, M. Jansen, M. Linschoten, **A. Bagheri**, N. de Jonge, H. Kirkels, L. van Laake, Aryan Vink, J.P. van Tintelen, D. Dooijes, A.S.J.M. te Riele, M. Harakalova, A.F. Baas, and F.W. Asselbergs. "*UNRAVEL: Big data analytics Research Data Platform to improve care of patients with cardiomyopathies using routine electronic health records and standardized Biobanking.*", Netherlands Heart Journal, Springer, pp.1-9.
- 2019 A. Jabalameli, **A. Bagheri**, S. M. Vahidipour, M. Mohammadi. "*A Focused Crawler Method Based on Machine Learning using a Content Similarity Strategy.*", International Journal on Digital Libraries, Springer, Under review.
- 2018 **A. Bagheri**. "*Integrating word status for joint detection of sentiment and aspect in reviews.*", SAGE, Journal of Information Science: 0165551518811458.
- 2018 R. Asgarnezhad, S. A. Monadjemi, M. Soltanaghaei, and **A. Bagheri**. "*SFT: A Model For Sentiment Classification Using Supervised Methods On Twitter.*" Journal of Theoretical & Applied Information Technology 96, no. 8.
- 2016 A. Zaghian, and **A. Bagheri**. "*A combined model of clustering and classification methods for preserving privacy in social networks against inference and neighborhood attacks.*", International Journal of Security and Its Applications, p. 95-110.
- 2015 **A. Bagheri**, M. Saraee, and S. Nadi. "*PSA: A Hybrid Feature Selection Approach for Persian Text Classification.*", Journal of Computing and Security, Special Issue in Data Mining and Knowledge Discovery.
- 2014 **A. Bagheri**, M. Saraee, and F. de Jong. "*ADM-LDA: An Aspect Detection Model based on Topic Modeling by Using Structures of Reviews.*", Journal of Information Science, SAGE.
- 2014 **A. Bagheri**, M. Saraee, and F. de Jong. "*Care more about customers: unsupervised domain-independent aspect detection for sentiment analysis of customer reviews.*", Knowledge-Based Systems Journal, Volume 52, pp. 201–213.

- 2014 **A. Bagheri**, and M. Saraee. "*Persian Sentiment Analyzer: A Framework based on a Novel Feature Selection Method.* ", International Journal of Artificial Intelligence (IJAI).
- 2011 S. Nadi, M. Saraee, and **A. Bagheri**. "*A Hybrid Recommender System for Dynamic Web Users.*", International Journal of Multimedia and Image Processing (IJMIP), V. 1 (1).
- 2010 S. Nadi, M. Saraee, and **A. Bagheri**. "*FARS: Fuzzy Ant based Recommender System for Web Users.*", IJCSI International Journal of Computer Science Issues, Vol. 7, Issue 6.
- 2008 **A. Bagheri**, M. Akbarzadeh, and M. Saraee. "*Finding Shortest Path with Learning Algorithms.*", International Journal of Artificial Intelligence, Volume 1, Number A08.

### Conferences

- 2019 Z. Sedighi, H. Ebrahimpour-Komleh, **A. Bagheri**, and L. Kosseim. "*Learning to Identify Fake Opinion Reviews using a Neural Network with Attention*", The 32nd International FLAIRS Conference, Sarasota, Florida, USA.
- 2018 M. Afsharizadeh, H. Ebrahimpour-Komleh, and **A. Bagheri**. "*Query-oriented text summarization using sentence extraction technique.*", in proceeding of 4th IEEE International Conference on Web Research (ICWR) (pp. 128-132).
- 2017 Z. Sedighi, H. Ebrahimpour-Komleh, and **A. Bagheri**. "*RLOSD: Representation learning based opinion spam detection.*", in proceedings 3rd IEEE Conference Intelligent Systems and Signal Processing (ICSPIS), IR.
- 2013 **A. Bagheri**, M. Saraee, and F. de Jong. "*Latent Dirichlet Markov Allocation for Sentiment Analysis.*", in proceeding of the Fifth European Conference on Intelligent Management Systems in Operations, Manchester, UK.
- 2013 **A. Bagheri**, M. Saraee, and F. de Jong. "*An Unsupervised Aspect Detection Model for Sentiment Analysis of Reviews.*", in proceeding of 18th International Conference on Application of Natural Language to Information Systems, Springer, Manchester, UK.
- 2013 M. Saraee, and **A. Bagheri**. "*Feature Selection Methods in Persian Sentiment Analysis.*", in proceeding of 18th International Conference on Application of Natural Language to Information Systems, Springer, Manchester, UK.
- 2013 **A. Bagheri**, M. Saraee, and F. de Jong. "*Sentiment Classification in Persian Introducing a Mutual Information-based Method for Feature Selection.*", 21st Iranian Conference on Electrical Engineering, IR.
- 2011 M. Moghimi, M. Saraee, and **A. Bagheri**. "*Modeling Batch Annealing Process Using Data Mining Techniques for Cold Rolled Steel Sheets.*", KDD4Service '11 ACM, California, USA.
- 2009 M. Norouzzadeh, **A. Bagheri**, and M. Saraee. "*Web Search Personalization: A Fuzzy Adaptive Approach.*", in proceeding of 2nd IEEE International Conference on Computer Science and Information Technology. Beijing, China.