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## Personal Statement

Reza Sadeghi has attended the department of computer science and engineering at Wright State University as a PhD student in computer science. Right now, he is a graduate research assistant at Data Science for Healthcare lab in the Ohio Center of Excellence in Knowledge-enabled Computing (kno.e.sis). He has achieved to publish more than 14 research papers in precious journals and conferences with high impact factors. Also, he is reviewer and program committee member of top conferences and journals such as WWW conference and IEEE Transactions on Fuzzy Systems.

Currently, he is working on three projects of patient monitoring system, structure learning, and dementia management. Through his research, he deals with different concepts especially, probabilistic graphical model, signal processing, and soft computing techniques. His focus is on creating a smart personalized clinical decision support system based on state-of-the-art machine learning methods.

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## Work experience

### Graduate Research Assistant

May 2017 - May 2020

Kno.e.sis Research Center, Wright State University, Dayton, Ohio, USA

Applying probabilistic graphical model structure learning in learning progress

Detecting changes in behavior and activity patterns of patients with dementia by wearable

Signal processing of vital signals of patients who stayed at CCU

Using soft computing techniques for anomaly detection with focus on mortality and readmission prediction

### Software Developer

Nov 2013 – Mar 2017

International Imam Reza University, Department of Computer and Information Technology, Mashhad, Iran

Customer Prediction in Furniture store based on Artificial Neural Network

Feature Reduction and Selection based on Fuzzy Rough Set

Handwriting detection based on Hidden Markov Model

Heart problem diagnosis via Fourier transform signal processing

Nurse scheduling based on Stochastic Programming

### Teaching Graduate Assistant

Sep 2014 - May 2015

International Imam Reza University, Department of Computer and Information Technology, Mashhad, Iran

The applications of fuzzy logic by MATLAB Fuzzy toolbox in "Advanced mathematics in computer engineering"

Creating dynamic website using HTML 5, CSS, and Java Script in "Multimedia systems"

Basic concepts of C and C++ programming in "Advanced Computer programming" and "Computer programming"

### Executive management and computer trainer

Sep 2011-Aug 2016

Soheil Education Complex, Tehran, Iran

Organization of student information

Training multimedia creation by Microsoft Power Point and Autoplay software

### Project Engineer

Feb 2012-June 2012

IUT High school, Isfahan, Iran

Designing &amp; implementation of online library management website

Advisor: Dr. Maryam Zekri

### Web Developer

Jun 2012-Mar 2012

Soheil Education Complex, Tehran, Iran

Designing and implementation based on ASP.NET

## Education

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### Ph. D., Computer Science (GPA:4.0)

May 2017 - May 2020

Wright State University, Department of Computer Science and Engineering, Dayton, Ohio, USA

Advisor: Dr. Tanvi Banerjee

Thesis: Personalized clinical decision support systems based on probabilistic graphical model

### M.S., Computer Engineering- Software (GPA:4.0)

Sep 2013 - May 2015

International Imam Reza University, Department of Computer and Information Technology, Mashhad, Iran

Thesis: Strengthening Support Vector Classifiers against Outliers by using Fuzzy Rough Set and Evolutionary Methods

### B.S., Computer Engineering- Software

Sep 2008 - Sep 2012

Isfahan University of Technology, Department of Electrical and Computer Engineering, Isfahan, Iran

Thesis: Designing & implementation of online library management website in IUT High School

## Interests

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Design and implementation of Expert Systems with the aim of outlier detection

Modeling complex systems using probabilistic graphical models, deep learning, and Fuzzy Logic

Personalized clinical decision support systems based on state-of-the-art machine learning methods

Solving NP-hard problems by Evolutionary Computation techniques, and stochastic programming

## Journal Publications

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- J. Hamidzadeh, M. Zabihiyayvan, **R. Sadeghi** (2018), "Detection of Web site visitors based on fuzzy rough sets", *Soft Computing*, 22(7), 147-158, April 2018. (Impact factor: 2.472)
- **R. Sadeghi**, J. Hamidzadeh (2018), "Automatic support vector data description", *Soft Computing*, 22(1), 147-158, January 2018. (Impact factor: 2.472)
- M. Zabihiyayvan, **R. Sadeghi**, H. NathanRude, D. Doran (2017), "A soft computing approach for benign and malicious web robot detection", *Expert Systems with Applications*, 87, 129-140, November 2017. (Impact factor: 3.928)
- J. Hamidzadeh, **R. Sadeghi**, Neda Namaei (2017), "Weighted support vector data description based on chaotic bat algorithm", *Applied Soft Computing*, 60, 540-551, November 2017. (Impact factor: 3.541)
- A. Gholinezhad Devin, K. Abedzadeh Ghuchani, **R. Sadeghi**, H. Koosha (2015), "Dynamic Facility Location with Stochastic Demand", *Shiraz Journal of System Management*, 3:3, 77-90, Fall 2015.
- A. Gholinezhad Devin, K. Abedzadeh Ghuchani, **R. Sadeghi** (2013), "Stochastic Facilities location Model by Using Stochastic Programming", *Shiraz Journal of System Management*, 1:4, 59-71, October 2013.

## Conference Publications

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- **R. Sadeghi**, T. Banerjee, W. Romine (2018), "Early Hospital Mortality Prediction using Vital Signals", Accepted in the CHASE 2018
- **R. Sadeghi**, J. Hamidzadeh (2015), "SVDD based on Rough fuzzy set", 20th National Conference of Iranian computer committee (CSICC2015), March 3, 2015 (In Persian).
- **R. Sadeghi**, A. Shaeen, H. Abbasi, J. Hamidzadeh (2014), "Inducing intuitionistic fuzzy decision tree based on maximum ambiguity in big data", Second International Conference on Intelligent Information Networks and Complex Systems (IINCS2014), November 26, 2014 (In Persian).
- J. Arefi, J. Hamidzadeh, A. Gholinezhad Devin, **R. Sadeghi**, S. Fayaz (2014), "Balancing time, cost, quality and network resources by considering time value of money and extended Fuzzy Logic", Fourteenth Iranian Conference on Fuzzy Systems (ICFS2014), August 19, 2014 (In Persian).

- **R. Sadeghi**, A. Shaeen, M. Vafaijahan (2014), “Improving fast Distance Vector convergence Protocol using enhanced Hidden Markov Model”, First National Conference on Computer Engineering and Information Technology Management (CEITM2014), May 29, 2014 (In Persian).
- J. Hamidzadeh, A. Shaeen, **R. Sadeghi** (2014), “Using Fuzzy Logic to Solving Worm Hole Attack”, First National Conference on Computer Engineering and Information Technology Management (CEITM2014), May 29, 2014 (In Persian).
- A. Gholinezhad Devin, **R. Sadeghi**, M. Hasan Nejat, J. Hamidzadeh (2014), “Project scheduling with resource constraints using fuzzy model extension”, Seventh International conference of Iranian Operations Research Society (OR2014), May 14, 2014 (In Persian).
- A. Gholinezhad Devin, K. Abedzadeh Ghuchani, **R. Sadeghi**, J. Hamidzadeh (2014), “Dynamic Stochastic facility location using random scheduling”, Seventh International conference of Iranian Operations Research Society (OR2014), May 14, 2014 (In Persian).
- V. Fazelinia, A. Ebrahimi Moghaddam, **R. Sadeghi**, J. Hamidzadeh (2014), “Robot routing with hybrid fuzzy logic and HMM”, First National Conference on ECSS (Moj 2014), May 10, 2014 (In Persian).

## Leadership and Service Activities

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- The program committee of WWW, ICACR , Biomedical Research, IntelliSys, Computing conference (2018)
- The referee of IEEE Transactions on Fuzzy Systems (Feb 2018- Present), International Journal of Science and Business (Jun 2018- Present)
- Academic outreach coordinator of Biomedical Research and Technology Association (Feb 2018- Present)
- SIGIR conference student volunteer (2018)

## Technical Strengths

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**Database:** PostgreSQL, Oracle, Microsoft SQL Server, Microsoft Access

**Programming language:** R, MATLAB, Octave, HTML, CSS, C#, C, C++, JavaScript, Python, ASP.NET

**Software:** Visual Studio, Eclipse, VMware, VM VirtualBox, SPSS, Bayesia, Protégé, MS Office, Weka

**Packages:** bnlearn, RPostgreSQL, Rcmdr, caret, Scikit-learn, igraph, network, R.matlab

## Honors and Awards

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- Top researcher of 2016 at Imam Reza International University
- Best paper award for publishing two papers “Detection of Web site visitors based on fuzzy rough sets” and “Automatic support vector data description”.

## Certifications

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<b>Seminar on Artificial Intelligence &amp; Virtual Reality with Bayesian Networks &amp; BayesiaLab</b> Bayesia, License CREDLY-14502538	Feb 2018- Present
<b>Probabilistic Graphical Models 1: Representation (with Honors)</b> Stanford University on Coursera, License 93VRVV253F72	Sep 2017- Present
<b>Course Completion in Biomedical Research Investigators</b> Collaborative Institutional Training (CITI), Record ID 23266575	Jun 2017-Jun 2020
<b>Course Completion in Data or Specimens Only Research</b> Collaborative Institutional Training (CITI), Record ID 23266577	Jun 2017-Jun 2020
<b>Course Completion in Responsible Conduct of Research for Biomedical</b> Collaborative Institutional Training (CITI), Record ID 23266576	Jun 2017-Jun 2020
<b>Internet searching methodologies &amp; Referencing techniques by Zotero</b> Research Management at Imam Reza International University, License 16793	Dec 2014 - Present

## References

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1. Prof. Amit Sheth  
Professor, Department of Computer Science and Engineering  
Executive Director, Ohio Center of Excellence on Knowledge-enabled Computing (Kno.e.sis).  
Wright State University, 3640 Colonel Glenn Hwy, Dayton, OH 45435  
[Amit@knoesis.org](mailto:Amit@knoesis.org)
2. Dr. Tanvi Banerjee  
Assistant Professor, Department of Computer Science and Engineering  
Wright State University, 3640 Colonel Glenn Hwy, Dayton, OH 45435  
[tanvi.banerjee@wright.edu](mailto:tanvi.banerjee@wright.edu)
3. Dr. Derek Doran  
Assistant Professor, Department of Computer Science and Engineering  
Wright State University, 3640 Colonel Glenn Hwy, Dayton, OH 45435  
[derek.doran@wright.edu](mailto:derek.doran@wright.edu)

## Others

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Iran citizen