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## Personal Statement

Reza Sadeghi is a Ph. D. student in Computer Science at the Department of Computer and Engineering at Wright State University. Through his research, he had worked with different concepts especially, probabilistic graphical model, signal processing, and soft computing techniques. Currently, he tries to create a smart personalized clinical decision support systems based on state-of-the-art machine learning methods. To address this issue, he is working on [kHealth for dementia project](#) under supervision of Dr. Tanvi Banerjee as a Graduate Research Assistant in the Kno.e.sis Center: the Ohio Center of Excellence in Knowledge-enabled Computing.

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## Work experience

**Graduate Research Assistant**

May 2017 - May 2022

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

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

Applying probabilistic graphical model structure learning in learning progress

**Software Developer**

Nov 2013 – Mar 2017

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

Heart problem diagnosis via Fourier transform signal processing

Feature Reduction and Selection based on Fuzzy Rough Set

Customer Prediction in Furniture store based on Artificial Neural Network

Nurse scheduling based on Stochastic Programming

Handwriting detection based on Hidden Markov Model

**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

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## Education

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

May 2017 - May 2022

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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Modeling complex systems using probabilistic graphical models  
Design and implementation of Expert Systems with the aim of outlier detection  
Personalized clinical decision support systems based on state-of-the-art machine learning methods  
Solving NP-hard problems by Fuzzy Logic, Evolutionary Computation techniques, and stochastic programming

## Journal Publications

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- M. Zabihiyavan, **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)
- J. Hamidzadeh, M. Zabihiyavan, **R. Sadeghi** (2017), "Detection of Web site visitors based on fuzzy rough sets", Soft Computing, In Press. (Impact factor: 2.472)
- **R. Sadeghi**, J. Hamidzadeh (2016), "Automatic support vector data description", Soft Computing, In Press. (Impact factor: 2.472)
- 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**, 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).

## Journal & Conference Referee

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- The Web Conference 2018 (WWW 2018)
- The IEEE Transactions on Fuzzy Systems (TFS)

## Technical Strengths

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**Operating System:** Microsoft windows, Linux

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

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

**Software:** Visual Studio, Eclipse, VMware, VM VirtualBox, Protégé, MS Office, Photoshop, UML, Weka

## 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>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. 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)
2. Dr. Derek Doran  
Assistant Professor, Department of Computer Science and Engineering  
Wright State University, 3640 Colonel Glenn Hwy, Dayton, OH 45435  
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