

**Mahdieh Zabihimayvan****Curriculum Vitae**

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**Personal Statement**

I am a PhD student of computer science and a graduate research assistant working on web traffic characterization and anomaly detection. Through several theoretical and applied projects, I have explored various concepts from computer networks and web programming to machine learning techniques. I am fascinated with using data mining and soft computing techniques to analyze web traffic of web servers and enhance their security and performance.

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

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

*2017-Present*

Advisor: Dr. Derek Doran

Focus: Machine learning, soft computing, data characterization, anomaly detection, statistical analysis, high-performance computing

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

Imam Reza International University, Dept. of Computer and Information Technology, Iran

*2012-2014*

Advisor: Dr. Majid Vafaei Jahan

Thesis: A Proposed Algorithm Based on Markov Clustering for Web Robot Detection

Focus: Evolutionary computation and optimization methods, machine learning, soft computing, data mining

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

Ferdowsi University, Dept. of Computer Engineering, Iran

*2007-2011*

Advisor: Dr. Mohsen Kahani

Thesis: Designing and Implementing a Web-based Account Framework

Focus: Computer networks, web programming

**Research Experience****Wright State University, Dayton, Ohio, USA**

*Graduate Research Assistant, Dept. of Computer Science & Engineering*

*2017-Present*

Advisor: Dr. Derek Doran

- Soft computing and machine learning techniques in anomaly detection with focus on web traffic detection (MATLAB and Python)
- Statistical Analysis and machine learning models in web session characterization

**Imam Reza International University, Mashhad, Iran**

2014-2016

*Department of Computer and Information Technology*

Advisor: Dr. Majid Vafaei Jahan

- Dynamic feature selection based on Fuzzy Rough Set theory (MATLAB)
- Soft computing techniques in web session detection (MATLAB)
- Markov processes with focus on Markov Clustering algorithm (MATLAB)
- Using Fuzzy Inference System based on Decision Trees as web visitor classification (MATLAB)
- Evolutionary computing techniques as web traffic classifiers (MATLAB)
- Message passing, remote procedure calls and distributed shared memory programming (Java)
- Data mining techniques in processing data (Rapidminer, Weka, MATLAB)

**Ferdowsi University, Iran**

2011-2012

*Information and Communication Center, Network & Web developing Group*

- Web programming (PHP, CSS, JavaScript, HTML)
- Network management and Security

**Mashhad University of Medical Science (MUMS), Iran**

2009

*Information Technology Center, Web Designing Group*

- Web programming (CSS, HTML) and designing websites
- Working with content management systems based on Microsoft SharePoint

**Teaching Experience****Imam Reza International University, Iran**

2012-2014

*Graduate Teaching Assistant, Dept. of Computer and Information Technology*

- Teaching Assistant of data mining for M.S. Students
  - Teaching data mining tools in MATLAB, Weka, and Rapidminer
- Teaching Assistant of advanced engineering mathematics in software engineering for M.S. Students
  - Statistical analysis and tests, random number generations, finite Markov chain and its algorithmic application
- Teaching Assistant of computer performance evaluation and modeling for M.S. Students
  - Queueing networks and Markov chains, Markov processes for stochastic modeling, test functions for optimization needs, Fuzzy control of queueing system, hidden Markov model
- Algorithm design for B.S. students
  - Time complexity of algorithms, recursion equations, sort algorithms, dynamic programming

**Technical Qualifications****Database Programming:** Microsoft SQL Server, MySQL, Microsoft Access**Programming Language:** Python, MATLAB, Java, C#, C, PHP, CSS, JavaScript, HTML**Data Mining Tools:** Rapidminer, WEKA**Operating System:** Microsoft windows, Linux, Macintosh

## Selected Publications

**M. Zabihimayvan**, R. Sadeghi, N. Rude, D. Doran (2017), “A Soft Computing Approach for Benign and Malicious Web Robot Detection,” *Expert Systems with applications*, 87, 129-140, (**Impact factor: 3.928**).

J. Hamidzadeh, **M. Zabihimayvan**, R. Sadeghi (2017), “Detection of Web site visitors based on fuzzy rough sets,” *Soft Computing*, In Press, (**Impact factor: 2.472**).

**M. Zabihimayvan**, M. Vafaei Jahan, J. Hamidzadeh (2014), “A Density Based Clustering Approach for Web Robot Detection,” *The 4th International IEEE conference on Computer and knowledge Engineering*, IEEE, (**Accept Rate: 22%**).

**M. Zabihimayvan**, M. Vafaei Jahan, J. Hamidzadeh (2014), “A density based clustering approach to distinguish between web robot and human requests to a web server,” *The ISC International Journal of Information Security*, 6(1), 77-89.

**M. Zabihimayvan**, M. Vafaei Jahan, J. Hamidzadeh (2014), “Fuzzy Inference for Intrusion Detection of Web Robots in Computer Networks,” *45th Annual Iranian Mathematics Conference*, In Persian.

**M. Zabihimayvan**, M. Vafaei Jahan (2014), “An Optimum Markov Clustering Algorithm for Accurate Web Robots Detection,” *The 7th International Conference of Iranian Operations Research Society*, In Persian.

**M. Zabihimayvan**, M. Vafaei Jahan (2013), “Web Robot Detection with Fuzzy Inference System Based on Decision Trees,” *The Seventh International Iranian Data Mining Conference*, In Persian.

## Honors and Awards

- Top researcher of M.Sc. students of Software Engineering 2017  
*Dept. of Computer and Information Technology, International University of Imam Reza*
- Awarded from Vice Chancellor of Research and Technology for publishing the paper “Detection of Web site visitors based on fuzzy rough sets” 2016  
*Dept. of Computer and Information Technology, International University of Imam Reza*
- Ranked 2nd in the academic period among the students matriculated from 2012 to 2014 2014  
*Dept. of Computer and Information Technology, International University of Imam Reza*
- Ranked 2nd among participants in *Nationwide* Azad Universities Entrance Exam for graduate studies 2011
- Ranked Top 1% among over 300,000 participants in *nationwide* universities entrance exam for undergraduate studies 2006

## Service

- Journal Referee:** 2017  
*Computers and Security*