

Mahdiah Zabihimayvan**Curriculum Vitae**

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Personal Statement

I am a PhD student of computer science and a graduate research assistant working on deep learning 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 machine learning and soft computing techniques in anomaly detection for different fields such as web traffic detection and defect detection in physical objects.

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, database design development

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 (Python)
- High-performance computing (Python)

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)
- Data mining techniques in processing data (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 and Weka
- 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, PHP, CSS, HTML**Data Mining Tools:** MATLAB, WEKA

Selected Publications

- M. Zabihimayvan**, D. Doran (2018), "Some (Non-)Universal Features of Web Robot Traffic," 52th Annual Conference on Information Sciences and Systems (CISS), IEEE, Princeton University, NJ, US, (Accepted).
- 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.
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Honors and Awards

- Awarded a fully paid travel to attend CRA-W Grad Cohort for Women 2018, San Francisco, CA 2018
Dept. of Computer Science and Engineering, Wright State University
 - Top researcher of M.Sc. students of Software Engineering 2017
Dept. of Computer and Information Technology, International University of Imam Reza
 - Best paper award for publishing the paper titled "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
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Research service

Referee for the journal of Computers and Security
 Referee for the journal of IEEE Transactions on Fuzzy Systems
 Program Committee member of the Web Conference 2018