## Mahdieh Zabihimayvan                                   **Curriculum Vitae**

Phone:(937) 775-5217                                    **Email**: Zabihimayvan.2@wright.edu,
Home page: http://knoesis.org/mahdieh                   mahdieh@knoesis.org
Current Location: Dayton, Ohio, USA

## Personal Statement

I am a PhD candidate of computer science and a graduate research assistant working on machine learning and anomaly detection. Through several theoretical and applied projects, I have explored various concepts from computer networks and web mining to machine learning and soft computing techniques. I am fascinated with using machine learning and statistical analysis in anomaly detection for different fields from cyber security to defect detection in physical objects.

## Education

***Ph.D., Computer Science*** (GPA:4.0)                                                    *2017-Present*
Wright State University, Dept. of Computer Science and Engineering, Dayton, Ohio, USA
Advisor: Dr. Derek Doran
Focus: Machine learning, soft computing, Web mining, anomaly detection, statistical analysis

***M.S., Computer Engineering-Software*** (GPA:4.0)                                         *2012-2014*
Imam Reza International University, Dept. of Computer and Information Technology, Iran
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***                                                   *2007-2011*
Ferdowsi University, Dept. of Computer Engineering, Iran
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**                                              *2017-Present*
*Graduate Research Assistant, Dept. of Computer Science & Engineering*
Advisor: Dr. Derek Doran
- Machine learning and soft computing techniques in anomaly detection and web mining (MATLAB, Python, R, Java, JavaScript)
- Statistical Analysis and machine learning models in data characterization (R, 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**
*Graduate Teaching Assistant, Dept. of Computer and Information Technology*                    *2012-2014*

- 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, R, MATLAB, Java, JavaScript, PHP, CSS, HTML
**Data Mining Tools**: MATLAB, Python, R

# Selected Publications

**M. Zabihimayvan**, Reza Sadeghi, D. Doran, Mehdi Allahyari (2019), "A Broad Evaluation of the Tor English Content Ecosystem", The Web Conference (Submitted).

**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.

## Patent

M. Zabihimayvan, R. Sadeghi, D. Doran (2018), "Soft Computing Methods for Feature Selection for Web Agent Detection", June 2018, U.S. Provisional Patent, Pending.

## Honors and Awards

- Anita Borg Scholar at Grace Hopper, Houston, Texas      2018
  *Dept. of Computer Science and Engineering, Wright State University*
- CRA-W Grad Cohort Scholar, San Francisco, California      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      2006
  undergraduate studies

## Research service

Journal referee at Computers and Security
Program Committee member of the Web Conference 2018
Journal referee at IEEE Transactions on Fuzzy Systems
Journal referee at Medical Internet Research