Mahmoud Mohammadi

Email: mmoham12@uncc.edu
Tel : 980-267-8569
Linkedin: https://www.linkedin.com/in/mahmo

Education

- Ph.D. in Computing and Information Systems: Software Security
    - University of North Carolina at Charlotte, NC, USA, Expected 2017
- M.Sc. in Information Technology
    - Tarbiat Modares University, Tehran, Iran, 2011-2013
        - Thesis Title: *Network anomaly detection using security alert visualization*
- B.Sc. in Computer Engineering
    - Isfahan University of Technology, Isfahan, Iran, 1996-2001

Publications

- M. Mohammadi, B. Chu, H.R. Lipford, and E. Murphy-Hill. "Automatic web security unit testing: XSS vulnerability detection. In *Proceedings of the 11th International Workshop on Automation of Software Test"*, ACM, 2016.
- M. Mohammadi, B. Chu, and H. R. Lipford, "POSTER : Using Unit Testing to Detect Sanitization Flaws," in *CCS'15: The 22nd ACM SIGSAC Conference on Computer and Communications Security*, Denver, USA,2015.
- M.Sarvi, M.Mohammadi and A. Yazdian, "A fuzzy expert system approach for spam detection", *13th Iranian Conference on Fuzzy Systems (IFSC)*, August 2013.

Professional Experience

- **Graduate Research Assistant** at **UNC Charlotte**   **May 2015-Present**
    - My research area is aimed to apply combined static-dynamic analysis to detect security vulnerabilities using security test cases executed in a unit testing framework:
        - It is developed in Java to automatic generation of test cases, composed of: Sanitization paths extraction, attack vectors generation and runtime sanitizations evaluation.
        - New vulnerabilities found in an open source medical application.
- **Teaching Assistant** at **UNC Charlotte**   **Aug 2014-May 2015**
    - **Principles of Information Security and Privacy, Fall 2014**: Graduate course on information security, web app vulnerabilities, network security, authentication and access control, and cryptography.
    - **Secure Programming and Penetration Testing, Spring 2015**: Graduate course on web application penetration testing, secure software development techniques and automated approaches such as static code analysis and application scanning.

- **Developer Analyst** at **IRISA**   **June 2004 – July 2014**
    - ❑ **Roles & Responsibilities:**
    - Software Engineering
    - Team leading and Project Management
    - Active participating with sales and marketing department in preparing tender technical-commercial documents in order to respond request for proposals (RFP).
- **Projects and Technologies:**
- Web-based application implementing the ITIL (in a large factory with near 15000 employees):
    - Incident/ Asset management modules using in C#, LINQ, SQL Server
    - Improved response time and quality of daily IT help/service operations

- Using Windows Management Instrumentation (WMI) module to scan the hosts in a network in order to collect their hardware and software properties remotely.
- Web-based "strategic management visualizer" module. Automatic generation of MS Visio diagrams out of dynamic data based on Balanced Scorecards (BSC) perspective, goals and measures.
- Web-based workflow designer module based on swim lane elements and layout using JQuery.
- Data migration plans to retrieve and cleaning of data from Oracle to SQL Server using SQL Server Integration Services (SSIS)
- A Windows Service application to integrate with external monitoring tools using C#:
  - Using a polling mechanism to extract events from network monitoring databases
  - Integration with "SolarWinds" and "OPManager"
- Railway tracking system using RFID with modules such as:
  - A middleware to handle massive continuous RFID tag reads (C++)
  - A central monitoring tool to watch on RFID readers to alarm failures and keep tracking of devices' activity logs (C#, Socket programming)
- Managing of software and network design, development and maintenance team for 2 years:
  - Technical staff of 25 member in 3 different customer sites
  - Network of 600 hosts and 35 switches and 15 organizational applications

Research Projects

- ASIDE project. Contributing in developing an Eclipse plug-in to detect access control vulnerabilities using static analysis and removing found vulnerabilities using source code annotations.
- Apache Spark-based application: The project was aimed to build a prediction model out of Wikipedia and Twitter data. The project uses as regression models to train and predict the trends of wiki page views or tweets in very near future.

Talks & Presentations

- Security Unit Testing To Detect Injection Attacks, UNC Charlotte Flash Talks (Winner), December 2015
- POSTER: Using Unit Testing To Detect Sanitization Flaws, ACM CCS Conference, Denver, October 2015
- Security Unit Testing For Vulnerability Detection, OWASP Charlotte Chapter Meeting, May 2015

Research Interests

Software Security, Formal Methods, Security Visualization, Data Security and Big Data

Technical Skills & Tools

Programming:	• Java, JSP	• JavaScript, JQuery, HTML,CSS
	• C#.NET, C++	• TSQL
	• Python	• .Net LINQ
Tools:	• Eclipse, Visual Studio,	• Hadoop , Apache Spark
	• JUnit, JWebUnit, HtmlUnit	• MySQL ,MS SQL Server
	• Eclipse Plugin Development	• HP Fortify

On-the-Job Training

CEH (Certified Ethical Hacking), ISMS Auditory (by DNV), PMBOK (Project Management Body Of Knowledge)