Mohsen Rezvani
Curriculum Vitae

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PERSONAL INFORMATION:

Office	Faculty of Computer Engineering, Shahrood University of Technology, Shahrood, Iran
Email	mrezvani@shahroodut.ac.ir, mohsen.rezvani@gmail.com
Phone	+98 912 257 2870

CURRENT POSITION:

Associate Professor at Shahrood University of Technology

Director of CERT Center, Shahrood University of Technology

CEO and Chairman of the Board at Fidar Data Company

RESEARCH INTERESTS:

- Data and Network Security
- Data Analysis and Big Data
- Machine Learning

EDUCATION:

PhD in Computer Science and Engineering
- School of Computer Science and Engineering, UNSW Sydney
- 2012-2015
- Supervisors: Prof. Sanjay Jha and A/Prof. Aleksandar Ignjatovic
- Thesis Subject: ***"Trust-Based Data Aggregation for WSNs in the Presence of Faults and Collusion Attacks"***

MSc in Software Engineering
- Department of Computer Engineering, Sharif University of Technology
- 1999-2001
- Supervisor: Dr. Rasool Jalili
- Thesis Subject: ***"High Level Security Policy Specification in Firewalls"***

BSc in Software Engineering
- Department of Computer Engineering, Amir-Kabir University of Technology (Tehran Polytechnic)
- 1995-1999
- Ranked 1st

AWARDS AND HONORS:

2022: Top researcher in the field of industry relations among all faculty members at Shahrood University of Technology

2021: Top researcher in the field of industry relations among all faculty members at Shahrood University of Technology

2018: Awarded grant research of young professors by National Elites Foundation in Iran (Dr. Kazemi Ashtiani Award)

2017: Member of the National Elites Foundation in Iran

2015: One-year Post-Doc position from Prof. Sanjay Jha, jointly sponsored by Google and UNSW

2015: Fully supported Post-Doc offer from Prof. Elisa Bertino at Purdue University

2014: NOMS-2014 student travel grant

2013: The Postgraduate Research Student Support (PRSS), Graduate Research School, UNSW

2014: CSIRO Digital Productivity and Services Flagship PhD Top Up Scholarship

2013: CSIRO Digital Productivity and Services Flagship PhD Top Up Scholarship

2011: Awarded a scholarship by the Ministry of Science, Research and Technology of the Islamic Republic of Iran to pursue my graduate education leading to my Ph.D.

1999: Ranked 21st out of 5000 computer and electronics engineering students in country-wide Higher Education Exam for M.Sc.

1999: Ranked 1st among B.S. students of department with major field in Software Engineering based on the final GPA.

SELECTED PUBLICATIONS:

Journal Papers:

Mohaddeseh Shahhosseini, Hoda Mashayekhi and **Mohsen Rezvani**, "A Deep Learning Approach for Botnet Detection Using Raw Network Traffic Data", Accepted in Journal of Network and Systems Management, February 2022.

Mohsen Rezvani and Mojtaba Rezvani, "Truss Decomposition using Triangle Graphs", Accepted in Soft Computing, October 2021.

Mohammadhossein Amouei, **Mohsen Rezvani** and Mansoor Fateh, "RAT: Reinforcement-Learning-Driven and Adaptive Testing for Vulnerability Discovery in Web Application Firewalls", Accepted in Transactions on Dependable and Secure Computing, July 2021.

Fatemeh Aliannejad, Tahanian Esmaeel, Mansoor Fateh and **Mohsen Rezvani**, "A Reinforcement Learning-Based Configuring Approach in Next-Generation Wireless Networks Using Software-Defined Metasurface", Accepted in Security and Communication Networks, April 2021.

Fahimeh Bagheri, **Mohsen Rezvani**, Mansoor Fateh and Esmaeel Tahanian, "Malicious Domain Detection using DNS Records", Accepted in Scientific Journal of Electronic and Cyber Defense, January 2021.

Esmaeel Tahanian, Mohammadhossein Amouei, Haleh Fateh and **Mohsen Rezvani**, "A Game-Theoretic Approach for Robust Federated Learning", Accepted in International Journal of Engineering (IJE), January 2021.

Mansoor Fateh, **Mohsen Rezvani** and Yasser Irani, "A New Method of Coding for Steganography based on LSB Matching Revisited", Accepted in Security and Communication Networks, January 2021.

Parimah Ziayi, Seyed Mostafa Farmanbar and **Mohsen Rezvani**,"YAICD: Yet Another IMSI Catcher Detector in GSM", Accepted in Security and Communication Networks, January 2021.

Yeganeh Jalali, Mansoor Fateh, **Mohsen Rezvani**, Vahid Abolghasemi and Mohammad Hossein Anisi "ResBCDU-Net: A Deep Learning Framework for Lung CT Image Segmentation", Accepted in MDPI Sensors, January 2021.

Parnia Gheisari, Mansoor Fateh and **Mohsen Rezvani**, "Lung CT Image Segmentation Using Reinforcement Learning", Accepted in International Journal on Artificial Intelligence Tools, December 2020.

Esmaeel Tahanian, Alireza Tajary, **Mohsen Rezvani** and Mansoor Fateh, "Scalable THz Network-on-Chip Architecture for Multi-Chip Systems", Accepted in Journal of Computer Networks and Communications, November 2020.

Marziye Rahmati, Mansoor Fateh, **Mohsen Rezvani**, Alireza Tajary and Vahid Abolghasemi, "A printed Persian OCR System using Deep Learning", Accepted in IET Image Processing, September 2020.

SeyedAmirHosseini Beghaeiraveri, Mohammad Izadi and **Mohsen Rezvani**, "Broadcast Complexity and Adaptive Adversaries in Verifiable Secret Sharing", Accepted in Security and Communication Networks, July 2020.

Shayan Ahmadi, Mohammad Nassiri and **Mohsen Rezvani**, "XACBench: A XACML Policy Benchmark", Accepted in Soft Computing, April 2020.

Kavan Fatehi, **Mohsen Rezvani** and Mansoor Fateh, "ASCRClu: An Adaptive Subspace Combination and Reduction Algorithm for Clustering of High Dimensional Data", Accepted in Pattern Analysis and Applications, March 2020.

Saman Khakmardan; **Mohsen Rezvani**; Ali Akbar Pouyan; Mansoor Fateh; Hamid Alinejad-Rokny, "MHiC, an integrated user-friendly tool for the identification and visualization of significant interactions in Hi-C data", Accepted in BMC Genomics, February 2020.

Mohsen Rezvani and Mojtaba Rezvani, "A Randomized Reputation System in the Presence of Unfair Ratings.", Accepted in ACM Transactions on Management Information Systems, January 2020.

Hamidreza Ghonchi, Mansoor Fateh, Vahid Abolghasemi, Saideh Ferdowsi and **Mohsen Rezvani**, "Deep Recurrent-Convolutional Neural Network for Classification of Simultaneous EEG-fNIRS Signals." IET Signal Processing 2020.

Alghamdi, Wael, **Mohsen Rezvani**, Hui Wu and Salil S. Kanhere, "Routing-aware and malicious node detection in a concealed data aggregation for WSNs." ACM Transactions on Sensor Networks (TOSN) 15, no. 2 (2019): 1-20.

M. Rezvani, D. Rajaratnam, A. Ignjatovic, M. Pagnucco and S. Jha, "Analyzing XACML Policies using Answer Set Programming'', Accepted in International Journal of Information Security, November 2018.

M. Fateh and **M. Rezvani**, "An email-based high capacity text steganography using repeating characters", International Journal of Computers and Applications, 2018.

M. Rezvani, A. Ignjatovic and E. Bertino, "A Provenance-Aware Multi-dimensional Reputation System for Online Rating Systems", to be published in ACM Transactions on Internet Technology (TOIT), 2018.

K. Fatehi, M. Rezvani, M. Fateh, and M.R. Pajoohan, "Subspace Clustering for High-Dimensional Data Using Cluster Structure Similarity", International Journal of Intelligent Information Technologies (IJIIT), December 2017.

M. Jahan, **M. Rezvani**, Q. Zhao, P.S. Roy, K. Sakurai, A. Seneviratne, and S. Jha, "Light Weight Write Mechanism for Cloud Data", in IEEE Transactions on Parallel and Distributed Systems, November 2017.

M. Rezvani, "Assessment Methodology for Anomaly-Based Intrusion Detection in Cloud Computing", Journal of Artificial Intelligence and Data Mining, November 2017.

M. Rezvani, V. Sekulic, A. Ignjatovic, E. Bertino and S. Jha, "Interdependent Security Risk Analysis of Hosts and Flows", IEEE Transactions on Information Forensics and Security, 2015.

M. Rezvani, A. Ignjatovic, E. Bertino and S. Jha, "Secure Data Aggregation Technique for Wireless Sensor Networks in the Presence of Collusion Attacks", IEEE Transactions on Dependable and Secure Computing, 2014.

M. Rezvani and R. Arian, "Specification, Analysis and Resolution of Anomalies in Firewall Security Policies", World Applied Sciences Journal 7 (Special Issue of Computer & IT): 188-198, 2009.

Books and Book Chapters

M. Rezvani, M. Fateh and M. Rezvani, translating the "Programming Challenges: The Programming Contest Training Manual" book by Steven S. Skiena and Miguel A. Revilla, Springer 2003.

M. Rezvani and S. Kazempoorian, translating the "Network Intrusion Detection and Prevention" book by Ali A. Ghorbani, Wei Lu and Mahbod Tavallaee, Springer 2010.

A. Ignjatovic, **M. Rezvani**, M. Allahbakhsh, and E. Bertino, "Robust Aggregation of Inconsistent Information - Concepts and Research Directions", Book Chapter in Transparency in Social Media, Springer, Cham, 2015.

Some Conference Papers:

M. Rezvani, M. Rezvani, "A Randomized Reputation System in the Presence of Unfair Ratings", The 18th International Conference on Web Information Systems Engineering (WISE 2017).

M. Rezvani, A. Ignjatovic, M. Pagnucco and S. Jha, "Anomaly-Free Policy Composition in Software-Defined Networks", The IFIP Networking 2016 Conference (NETWORKING 2016).

M. Rezvani, A. Ignjatovic, E. Bertino and S. Jha, "A Collaborative Reputation System Based on Credibility Propagation in WSNs", The 21st IEEE International Conference on Parallel and Distributed Systems (ICPADS 2015).

M. Jahan, **M. Rezvani**, A. Seneviratne, and S. Jha, "Method for Providing Secure and Private Fine-grained Access to Outsourced Data", IEEE LCN 2015.

M. Rezvani, M. Allahbakhsh, L. Vigentini, A. Ignjatovic, and S. Jha, "An Iterative Algorithm for Reputation Aggregation in Multi-dimensional and Multinomial Rating Systems", IFIP SEC 2015, 189-203, May 2015.

M. Rezvani, A. Ignjatovic, E. Bertino and S. Jha, "Iterative Filtering for Trust Assessment in Data Streaming" in proceedings of the 10th International Conference on Intelligent Sensors, Sensor Networks and Information Processing, ISSNIP'15.

Z. Abaid, **M. Rezvani**, S. Jha, "MalwareMonitor: An SDN-based Framework for Securing Large Networks", in proceedings of the ACM CoNEXT'14, Student Workshop, December 2014.

M. Rezvani, A. Ignjatovic, E. Bertino and S. Jha, "Provenance-Aware Security Risk Analysis for Hosts and Network Flows" in proceedings of the IEEE/IFIP Network Operations and Management Symposium, NOMS 2014, 5-9 May 2014 in Krakow, Poland.

M. Rezvani, A. Ignjatovic, E. Bertino and S. Jha, "A Robust Iterative Filtering Technique for Wireless Sensor Networks in the Presence of Malicious Attacks" in proceedings of 13th ACM Conference on Embedded Networked Sensor Systems (SenSys 2013), November 11-13 2013.

M. Rezvani, A. Ignjatovic, S. Jha, "Iterative Security Risk Analysis for Network Flows Based on Provenance and Interdependency," IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 13), pp. 286-288, Cambridge, MA, USA, 20-23 May, 2013.

A. Ahmadi, **M. Rezvani**, and A. Dadlani, "A Dynamic and Self-Optimized Decision Tree for Improving Firewall Throughput", Proceedings of 3rd International Conference on Computer and Network Topology (ICCNT 2011), Taiyuan, China, February 2011.

M. Rezvani and S.M.H Hamidi, "MIZAN: A Secure E-voting Schema with Vote Changeability", Proceedings of International Conference on Information Society (i-Society 2010), London, UK, June 2010.

M. Rezvani and R. Arian, "Analyzing and Resolving Anomalies in Firewall Security Policies Based on Propositional Logic", Proceedings of 13th IEEE International Multitopic Conference 2009 (INMIC-2009), Islamabad, Pakistan, December 2009.

M. Rezvani, M. Zarei and A. Golbin, "Packet Filter Optimization using Decision Tree", Proceedings of 5th Iranian Society of Cryptology Conference, Malek-Ashtar University of Technology, Tehran, Iran, October 2008.

R. Jalili and **M. Rezvani**, "Specification and Verification of Security Policies in Firewalls", Proceedings of 1st EurAsian Conference on Advances in Information

and Communication Technology, EurAsia-ICT 2002, Shiraz (Iran), October 29-31, 2002, Published in Lecture Notes in Computer Science by Springer Verlag.

Rezvani, M. and Jalili, R., "Analysis and Verification of Security Policy in Firewalls" Proceedings of the Seventh Annual Iranian Computer Society Conference (ICSC'2002), Iran Telecommunication Center, March 2002.

Jalili, R. and Rezvani, M., "High Level Security Policy Specification in Firewalls", Proceedings of the First Iranian Cryptography Conference, Imam Hossein University, Tehran, Iran, October 2001.

EXPERIENCES:

Work Experiences:
- 2019 – Now, CEO and Chairman of the Board at Fidar Data Company
  - Founder, Director and a Shareholder
- 2016 – Now, Associate Prof., Director of Data and Network Security Research Lab.
  - Computer Engineering Department, Shahrood University of Technology
  - Director of CERT center, Shahrood University of Technology
  - Director of Data and Network Security Research Lab, Shahrood University of Technology
- Feb 2017 – Feb 2019, Director of the International Affairs Office
  - Shahrood University of Technology
- 2016 – 2019, General Director, Parsa-Sharif Research Center
  - Deputy of Research
  - General Director
- 2011 – 2016, School of Computer Science and Engineering, UNSW
  - Post-Doc, Research Associate and Lecturer
  - PhD Student, Research Assistant
- 2006 – 2011, Amnafzar Co., Part time
  - Network and application security department
  - Research and Development (R&D) Group
  - Business Development Manager
- 2006 – 2010
  - Faculty member of Information Technology and Computer Engineering Department, Shahrood University of Technology
- 2002 – 2006, Amnafzar Co., Chief Technical Officer
  - Cryptography and PKI products and solutions
  - Network security (Products, Consultation, Implementation)
  - Information security management standards (BS7799, ISO17799, TR13335)
  - Developed network security architecture and implementation plan
  - OO analysis, design and programming, UML
  - Unix based software development and administration
  - Design and Implementation of Firewall Appliances, PKI Solutions, other network security products and services (Chief Investigator).

- 1999-2002, Sharif Network Security Center, Senior Researcher
  - Design and Implementation of network security and monitoring products.

Research Experiences:
- 2016-Now, Shahrood University of Technology
  - Research project on **Cyber Threat Intelligence Platform**, granted by Iran's National Elites Foundation
  - Research project on **Analysis of Security Issues in Electronic Payment Systems**, granted by Kashef company
  - Research project on **Cyber Threat Intelligence Platform for Electronic Payment Systems**, granted by Kashef company
  - Research project on **Computer Security Incident Response Services**, granted by Information Technology Organization of Iran
  - Research project on **Fake BTS Detection**, granted by Mobile Telecommunication Company of Iran
  - Research project on **Auto-Profile Learning for WAFs**, granted by Parsa-Sharif Research Institute
  - Research project on **Secure Big Data Processing Framework**, granted by Iran Electronics Industries
  - Federated and adversarial machine learning
  - Detecting web attacks using machine learning
  - Detecting fishing attacks in social networks using machine learning
  - Security policy management using formal methods
  - Trust and reputation systems in social networks
  - Anomaly-based intrusion detection system
  - Design and Analysis of Steganography Schemes
  - Data analysis and Big data
- 2012 – 2016, School of Computer Science and Engineering, UNSW
  - Policy Management in Software Defined Networking granted by Google Research Awards program 2015 (around 150,000AUD)
  - Security Risk Assessment for Network Hosts and Flows
  - Trust and Reputation Systems in Wireless Sensor Networks
  - Intrusion Detection Systems
- 2008-2010
  - Design and implementation of a secure electronic voting protocol (at Shahrood University of Technology)
- 2007-2010
  - Anomaly detection and optimization of policy rules in network firewalls (at Shahrood University of Technology)

Teaching Experiences:
- Assistant Professor, Department of Computer Engineering, Shahrood University of Technology, 2016 – Now
  - Social Network Analysis
  - Game Theory
  - Data Mining
  - Network Security

- o Computer Networks
- o Advanced Programming in Java
- o Database Design
- Co-Lecturer, School of Computer Science and Engineering, UNSW, 2016
  - o COMP4337/9337, Securing Wireless Networks, s1, 2016
- Casual Tutoring and course administrator, CSE, UNSW, 2012-2016
  - o COMP3121/3821/9101/9801, Design and Analysis of Algorithms
  - o COMP3331/9331, Computer Networks and Applications
  - o COMP9334, Capacity Planning of Computer Systems and Networks
  - o COMP4336_9336, Mobile Data Networking
- Lecturer, Department of Computer Engineering and Information Technology, Shahrood University of Technology, 2006 – 2010
  - o Discreet Mathematics
  - o Database Systems
  - o Algorithm Design
  - o Cryptography and Network Security
  - o Data Structures and Algorithms
  - o Language Theory and Automata
  - o Advanced Programming (C++)

Technical and Scientific Skills:
- Excellent programming abilities in C++, Java and Python
  - o OO analysis, design and programming, UML
  - o Java, C, C++, Matlab, SQL and Shell programming in Linux
  - o Expert in computational statistics with MATLAB
  - o Unix programming and administration
  - o Network programming
  - o Logic programming using ASP
- Excellent knowledge of computer networks and network security
- Excellent knowledge of computer networks, network security and its different aspects
- Good knowledge of operating systems concepts and design, with some experiences in Linux kernel programming
- Broad experiences in design and development of different network security products
- Good knowledge of symmetric and asymmetric cryptography algorithms, PKI concepts, security tokens, smart cards and other technologies for authentication solution
- Good familiarities in security operation services, design and deployment of security plans, ISMS design, implementation and audit

General Skills:
- Excellent abilities in writing well-formed and accurate technical reports.
- Excellent abilities in creating well-shaped business reports.
- Good familiarity with management skills with years of experiences in management of private companies, working teams and research groups.
- Excellent abilities in using computer to facilitate everything around.

- Good knowledge of how to use different word-processing, spreadsheet, presentation, and document preparation software.

LANGUAGES

Farsi
Fluent, Native

English
Fluent

Arabic
General Knowledge