Curriculum Vitae

Marjan Keramati-Iranian

- Faculty member of University (2013-Present)
  School of Mathematics, Statistics and Computer Science
  Semnan University, Semnan, Iran
- PHD Student (2020-Present)
  Iran University of Science and Technology

Personal Information

- **Gender:** Female
- **Nationality:** Iranian
- **Religion:** Islam
- **Date of Birth:** June, 15th , 1986
- **Email:** keramati_marjan@semnan.ac.ir, Marjan.keramatee@gmail.com,
  keramati_marjan@comp.iust.ac.ir

- **Website:** http://keramatimarjan.profile.semnan.ac.ir/#about_me

- **LinkedIn Profile:** https://www.linkedin.com/in/marjan-keramati-31626012a/
- **Scopus Profile**: https://www.scopus.com/authid/detail.uri?authorId=55130549900

RESEARCH INTERESTS

- Software Defined Networks
- SD-WAN
- Smart Grid Communication Technologies
- Risk Assessment of vulnerabilities
- Vulnerability Analysis
- Security Modeling
- Security Metrics
- Cloud Computing Security
- Big Data Security
- IOT Security
- Blockchain Security
- Security and Privacy
- Intrusion Detection Systems
- Intrusion Prevention Systems

EDUCATION

2009 – 2011	Iran University of Science and Technology

School of Computer Engineering
M.Sc. of Computer Systems Architecture

- GPA: 18.06/ 20
- Thesis: Using Attack Graph for Improving Intrusion Response Systems in Computer Networks (Defended with Grade 19.75/20)

2004 – 2008	Iran University of Science and Technology

School of Computer Engineering
B.Sc. of Hardware Engineering

- Thesis: Investigating the IP Multimedia Sub-System and its Services (Defended with Grade 19.5/20)

2020 – Present	Iran University of Science and Technology

School of Computer Engineering
PHD Student, Computer Networks and Secure Computing

- GPA: 19.35/ 20
- Thesis: Proposing a SD-WAN Based Overlay Network for Smart Grid Communications

PUBLICATIONS

Conferences

- M. Keramati, H. Asgharian, A. Akbari, "Cost-Aware Network Immunization Framework for Intrusion Prevention "International Conference on Computer Applications and Industrial Electronics, pp. 321-326, 2011
- M. Keramati, A.Akbari, "An attack graph based metric for security evaluation of computer networks", 6'th International Symposium on Telecommunications (IST'2012),pp.1094 - 1098,2012
- M. Keramati, A.Akbari, M. Keramati '' CVSS-based Security Metrics for Quantitative Analysis Of Attack Graphs", 3rd International Conference on Computer and Knowledge Engineering , pp.178-183, 2013
- M. Keramati, M. Keramati, "Novel Security Metrics for Ranking Vulnerabilities in Computer Networks", 7'th International Symposium on Telecommunications (IST'2014),pp.883 - 888,2014
- M. Keramati, "New Vulnerability Scoring System for dynamic security evaluation," 2016 8th International Symposium on Telecommunications (IST), Tehran, 2016, pp. 746-751.
- M. Keramati, "An attack graph based procedure for risk estimation of zero-day attacks," 2016 8th International Symposium on Telecommunications (IST), Tehran, 2016, pp. 723-728.
- M.Keramati, "Attack Graph Based system for Risk Assessment of Multi-Step Attacks", Proceedings of the 2nd International Conference on Combinatorics, Cryptography and Computation (I4C2017), pp.171-182.
- M. Keramati, "A novel system for quantifying the danger degree of computer network attacks," *2017 IEEE 4th International Conference on Knowledge-Based Engineering and Innovation (KBEI)*, Tehran, 2017, pp. 0804-0809, doi: 10.1109/KBEI.2017.8324906.
- M.Keramati, F.Halataei, "Security Model Based Method for Quantitative Risk Evaluation of Zero-Day Attacks" The 4th National Conference On Applied Research in Electrical , Mechanical, Computer and IT Engineering , pp. 3866-3876.
- M.Keramati, F.Halataei," Innovative Cyber-Security Metrics for Intrusion Prevention", the Third International Conference on Combinatorics, Cryptography and Computation (I4C2018), pp.186-194.
-

Journal Papers

- M.Keramati, "An Attack Graph Based Method for Predictive Risk Evaluation of Zero-Day Attacks", International Journal of Information & Communication Technology Research, Volume 9, Issue 3 (2017) , pp. 7-16.

- M.Keramati, "Dynamic Risk Assessment System for Vulnerability Scoring", International Journal of Information & Communication Technology Research, Volume 9, Issue 4 (2017), pp. 57-68.
- M.Keramati, "A Novel Approach for Amending Vulnerability Scoring in CVSS", Journal of Iranian Association of Electrical and Electronics Engineers,2019, (Accepted).
- M.Keramati, " A Security Model Based Method for Dynamic Risk Evaluation of Multi-Step Attacks in Computer Networks", Journal of Electronical & Cyber Defence, Special Issue for the Third International Conference on Combinatorics, Cryptography and Computation (I4C2018), pp. 59-74
.

Book Translation

John R. Vacca, Managing Information Security, Second Edition, Semnan University Press , 2017

SKILLS
- Spoken Languages: fluent in American English
  - Duolingo
    - 115
    - Being prepared for getting higher score
- Professional Skills:
  - Experienced with:
    - Programming Languages: C, C++, C#, JAVA.VHDL, Verilog, Python
    - Professional Applications: Matlab, Microsoft Visual Studio, Wireshark, Packet Tracer, NS2, Simple Scaler, Modelsim, Mininet, Multi-Agent Simulation, MPI programming, Docker Networking, Network Programming
    - Linux Operating System (LPIC 1)
- Social Skills
  - Key Note Speaker in the 4th International Conference on Combinatorics, Cryptography and Computation, Iran University of Science and Technology, Tehran, Iran, November 2019,"An Overview of BlockChain Security Challenges (In English)"
  - Key Note Speaker in the Second International Conference of Electrical Engineering, Computer Science and Information Technology, Shahid Beheshti University, Tehran , Iran, September 2015,"Dynamic Risk Evaluation of Multi-Step Attacks (In English)"
  - Researcher of the Information Technology Center of Iran university of science and technology, Tehran, Iran (September 2010-September 2011)
  - Faculty Member of Semnan University (January 2013-Present)
  - Member of the Research Committee. Department of Computer Science, Semnan, Iran (January 2015-2019)
  - Member of the Executive committee (International Relationships section) of the 45th International Mathematic Conference held in Semnan University, Summer 2014.
  - Member of National Technical Standard Codification, Iran (2017-Present)
  - Member of Editorial Review Board, Journal of cases on Information Technology, USA (2017-2021)
  - Head of Department, Department of Computer Science, Semnan, Iran (November 2018-2019)
  - Member of the Educational Council. Department of Computer Science, Semnan, Iran (2018-2019)
- Extracurricular Activities:
  - Sports: Volleyball, jogging
  - Music: Santoor (Dulcimer) Player

TEACHING AND PROFESSIONAL EXPERIENCES

- Teaching in Universities (Since 2010)
  - Undergraduate Courses:
    - Computer Networks
    - Cryptography and Network Security
    - Digital Logical Circuit
    - Computer Systems Architecture
    - Principles of Operating Systems
    - Programming Languages
    - Microprocessors
    - Professional English for the students of computer science.
- Journal Reviewer:
  - Member of Editorial Review Board, Journal of cases on Information Technology, USA (2017-Present)
  - Journal of Systems and Software
  - IEEE Access
  - Journal of Systems and Systems Engineering
  - Iranian Journal of Electrical and Computer Engineering (IJECE)
- Work:
  - Faculty Member of University, Semnan University, Semnan, Iran

ACADEMIC RESEARCH

- Investigating the IP Multimedia Sub-System and its Services, B.Sc. Final Project, Iran University of Science and Technology, 2008.
- Using Attack Graph for Improving Intrusion Response Systems in Computer Networks M.Sc. Thesis, Iran University of Science and Technology, 2011.
- Development and Implementation of a framework for Vulnerabilities Scoring in Computer Networks, Semnan University , 2016.
- Development of a framework for Risk Assessment of Zero-Day Attacks in Computer Networks, Semnan University , 2018.

National Standard Codification

- Information technology —Telecommunications and information exchange between systems — NFC Security - NFC-SEC entity authentication and key agreement using asymmetric cryptography (ISO/IEC 13157-4), 2017 (Head of Technical Commission)

TAKEN COURSES IN M.SC and PHD.

- Advanced Computer Networks   16.5/20
- Reliable systems Design   16/20
- Advanced Mathematics for Computer   18.9/20
  Engineering
- Hardware Modeling and Design   19/20
  methods
- Special Topics in Computer Engineering   19.75/20
- Digital Systems Synthesis   17.75/20
- Speech Recognition   18/20
- Seminar   19.9/20
- Advanced Computer Architecture   14/20
- Advanced Network Security   20/20
- Distributed Systems   20/20

- Wireless and Mobile Networks   19.9/20
- Internet of Things   19.4/20
- Multi-Agent Systems   18.75/20

Honors and Awards

- Ranked 797 among more than 500000 participants in University Entrance Exam, 2004
- Ranked first among the M.Sc Computer Engineering students of the same enrollment year, Iran University of Science and Technology, Tehran, Iran, 2011.
- Honored as an outstanding graduate student among all the graduated students of Iran University of Science and Technology, Tehran, Iran , 2011.
- Selective lecturer of Computer Science Department, Semnan University, Semnan, Iran , 2013.
- Superior lecturer of Computer Science Department, Semnan University, Semnan, Iran , 2014.
- Selective lecturer of Computer Science Department, Semnan University, Semnan, Iran , 2018.
- Elected paper named" New Vulnerability Scoring System for dynamic security evaluation"   8th International Symposium on Telecommunications (IST), Tehran, 2016.
- Elected paper named" An attack graph based procedure for risk estimation of zero-day attacks" 8th International Symposium on Telecommunications (IST), Tehran, 2016.
- Elected paper named "Attack Graph Based system for Risk Assessment of Multi-Step Attacks", Proceedings of the 2nd International Conference on Combinatorics, Cryptography and Computation (I4C2017)
- Distinguished Rank among all the participants in PHD Entrance Exam, July 2020

REFERENCES

- **Dr. Ahmad Akbari**, Ph.D., Electrical Eng. from university of Rennes 1, Rennes, France, Associate Professor, Dean of school of computer engineering, Iran University of Science and Technology, akbari@iust.ac.ir
- **Dr. Naser Mozayani**, Doctor of Philosophy (PhD) in Informatics, University of **Rennes I**, FRANCE, July 1998.Associate Professor, Iran University of Science and Technology, mozayani@iust.ac.ir.

- **Dr. Reza Berangi**, Doctor of Philosophy (PhD) in Mobile Telecommunications, Victoria University of Technology, Melbourne, Australia, Associate Professor, Iran University of Science and Technology, rberangi@iust.ac.ir.
- **Dr. Sayed Vahid Azhari**, PhD in Electrical and Computer Enginering, McMaster University, Canada, Assistant Professor, Iran University of Science and Technology, azharivs@iust.ac.ir.