

Salma Abdalla Hamad

Mobile	0452600090
Email	salma.hamad@mq.edu.au
Webpage	https://salma-abdalla-hamad0.webnode.com/

Summary

I have had extensive work experience in the information security and training, giving me varied skills and the ability to work with many different types of systems and well as dealing with different types of people.

I started research early and have experienced several IT environments with different disciplines throughout my professional lifetime. My current focus is on information security. My PhD research areas were related to Data Science, Cyber Security, and Machine Learning. I am currently an Information security manager at a financial institute, adding real value by providing commercial insights and practical advice to build business capability from data analysis.

Research Interests

Data Science, Machine Learning, Cyber Security, Internet of Things, Cloud.

Education

2021 *PhD Computing, Faculty of Science and Engineering*
Macquarie University

2009 *M.Sc Electronics and Communication Engineering*
Arab Academy of Science & Technology & Maritime Transport, Egypt

- Final GPA: 4.0/4.0 Excellent

2005 *B.Sc Electronics and Communication Engineering*
Arab Academy of Science & Technology & Maritime Transport, Egypt

- Final GPA: 4.0/4.0 Excellent with Honors

Professional Certifications

- CISSP preparing for certification
 - CompTIA Security+ certified August 2018.
 - CCNA certified December 2013.
-

Publications

Journal Articles

1. Dai Hoang Tran, Michael Sheng, Wei Emma Zhang, **Salma Abdalla Hamad**, Nguyen Lu Dang, Nguyen H. Tran, "Challenges and Opportunities on Deep Conversational Recommender Systems." *IEEE Computer*, 2021.
2. Dai Hoang Tran, Quan Z. Sheng, Wei Emma Zhang, **Salma Abdalla Hamad**, Abdulwahab Aljubairy, Munazza Zaib, Nguyen Lu Dang Khoa, and Nguyen H, "HeteGraph: graph learning in recommender systems via graph convolutional networks", *Neural Computing and Application*, 2021.

3. **Salma Abdalla Hamad**, Michael Sheng, Wei Emma Zhang, & Surya Nepal, "Realizing an Internet of Secure Things: A Survey on Issues and Enabling Technologies", *IEEE Communications Surveys and Tutorials, COMST*, p. 1372–1391, 2020.
4. Ezzeldine Moukhtar , Mostafa El-Kadi , Mostafa Hazem, Mina Bakhoun , Ramy Bahgat , Ramy Mossaad, **Salma Abdalla**, Shaimaa El-Sherief, Sherif Nour ElDin, Waleed Fakhr, "Rejection Analysis of an Iris Recognition System", *ICGST/GVIP journal* , VOLUME={06}, Special Issue on Medical Image Processing, p. 55-60, 2006.

Conference Papers

5. **Salma A. Hamad**, Dai H. Tran, Quan Z. Sheng, Wei E. Zhang, "BERTDeep-Ware: A Cross-architecture Malware Detection Solution for IoT Systems", *IEEE International Conference on Trust, Security and Privacy in Computing and Communications – TrustCom*, 2021.
6. Dai Hoang Tran, **Salma A. Hamad**, Munazza Zaib, Abdulwahab Aljubairy, Quan Z. Sheng, Wei Emma Zhang, Nguyen H. Tran and Lu Dang Khoa Nguyen, "Deep News Recommendation with Contextual User Profiling and Multifaceted Article Representation", *International Conference on Web Information Systems Engineering – WISE*, 2021.
7. **Salma A. Hamad**, Quan Z. Sheng, Dai H. Tran, Wei E. Zhang, and Surya Nepal, "A Behavioural Network Traffic Novelty Detection for the Internet of Things Infrastructures", *International Symposium on Parallel Architectures, Algorithms and Programming - PAAP*, 1362, p. 174-186, 2021
8. Wei Emma Zhang, Quan Z. Sheng, Adnan Mahmoud, Dai Hoang Tran, Munazza Zaib, **Salma Abdalla Hamad**, Abdulwahab Aljubairy and Subhash Sagar, "The 10 Research Topics in the Internet of Things", *IEEE International Conference on Collaboration and Internet Computing - CIC*, p. 34-43, 2020
9. **Salma Abdalla Hamad**, Wei Emma Zhang, Michael Sheng, & Surya Nepal, "IoT Device Identification Via Network-Flow-Based Fingerprinting and Learning", *IEEE International Conference on Trust, Security, and Privacy in Computing and Communications, TrustCom*, p. 103-111, August 2019.
10. **Salma Abdalla**, Sherif Hazem, "Computer Forensics Guidance Model with Cases Study", *IEEE International Conference on multimedia information networking and security (MINES)*, 2011.
11. **Salma Abdalla**, Sherif Hazem and Sherif Hashem, "Guideline Model for digital Forensic Investigation". *Proceeding of Digital Forensics, Security and Law conference*, page 55, 2007.
12. **Salma Abdalla**, Sherif Hazem and Sherif Hashem, "Teams Responsibilities for Digital Forensic Process", *Proceeding of Digital Forensics, Security and Law conference*, page 95, 2007.

Professional Activities

1. IEEE EDOC 2021 Workshop Chair and organiser.
2. Reviewer, ACM Computing Surveys
3. Reviewer, IEEE Transactions on Dependable and Secure Computing
4. Reviewer, IEEE Internet of Things Journal
5. Reviewer, Sustainable Cities and Society

Teaching and Tutoring

1. Teaching Assistant, Data Networks, Semester 1, 2021 and Semester 1, 2018. Department of Computing, Faculty of Science and Engineering, Macquarie University
2. Teaching Assistant, Digital Forensics, Semester 1, 2021. Department of Computing, Faculty of Science and Engineering, Macquarie University
3. Teaching Assistant, Computer Networks, Semester 2, 2020. Department of Computing, Faculty of Science and Engineering, Macquarie University

4. Teaching Assistant, Applied Cryptography, Semester 2, 2020. Department of Computing, Faculty of Science and Engineering, Macquarie University
5. Trainer, Survey Design and Data Security, 2019. Rabobank, Australia.
6. Trainer, Professional Data security and networks, course designer, 2017. ESCC.
7. Trainer, Data centre security and implementation, 2016 ITIDA

Awards and Honors

2017	Macquarie University	Faculty of Science and Engineering, Computing PhD Scholarship
2015	Information Technology Industry Development Agency (ITIDA)	Employee of the month and best achiever
2012	Information Technology Industry Development Agency (ITIDA)	Employee of the month and best achiever
2007	Arab academy for Science and Technology and Maritime Transport	First-class Masters Scholarship of Faculty
2005	Arab academy for Science and Technology and Maritime Transport	Honors and University Wide GPA Recognition Award
2003	Arab academy for Science and Technology and Maritime Transport	First-class Scholarship of Faculty

Working Experience

Viridian Advisory

Sydney,
Australia

Information Security Manager

2021-Now

Viridian Advisory is a financial advisory organisation. My job main tasks are, maintaining ISO27001 certification, managing security risk, implement security controls, security risk assessments for all the organisation systems and infrastructure components, assess vendors while onboarding them to ensure compliance with APRA CPS234. Prepare and provide cyber-security, data security and infrastructure security awareness trainings for the company's employees.

TCS – Australia

Sydney,
Australia

Cyber Security and PKI Consultant

2021-Dec
2021

Tata consultancy services provide IT related consultants and implement secure solutions for clients. Part of my current role is to design and implement PKI and security solutions for clients.

Macquarie University

Sydney,
Australia

Research Analyst and Tutor

2017-Now

I work as a casual tutor for the computing department for a number of courses.

Rabobank Australia

Sydney,
Australia

Security Risk Analyst

2018-2021

Rabobank is Dutch multinational banking and financial services company headquartered in Utrecht, Netherlands. It is a global leader in food and agriculture financing and sustainability-oriented banking. My job main tasks are security risk assessments for all banks systems and infrastructure components, assess vendors while onboarding them to ensure compliance with APRA CPS234. Prepare and provide cyber-security, data security and infrastructure security awareness trainings for the bank's employees.

Electronic Signature Competence Center (ESCC)",

Cairo,

Egypt

Information Security Professional Services and Evaluation Team Leader

2014-2017

The main tasks beside projects management and security risk management for all projects were to provide professional services to the center clients such as designing, implementing and supporting the required infrastructure and systems for securing the IT systems, testing applications, training customers on general cyber security as well as how to use the applications provided by the center.

Information Technology Industry Development Agency (ITIDA)

Cairo,

Egypt

Information Security and PKI Engineer

2005-2014

The main tasks were to, implement, configure, deploy, troubleshoot and support the root certificate authority data center including its systems, network appliances and security systems. Moreover, I was involved in preparing and providing e-signature and general security training for e-signature users. Furthermore, part of my job was to document all changes and configurations and prepare paperwork for internal audits.

Research Experience and Projects

Research Projects

- **IoT malware analysis (work in progress) using**
 - Static code analysis
 - NLP methods.
 - Machine learning
- **IoT infrastructure intrusion detection using**
 - Network traffic anomaly detection
 - Novelty detection algorithms and neural networks.
- **IoT infrastructure system for device identification and authentication using**
 - Network traffic fingerprinting
 - Machine learning
- **Digital Forensics data collection and analysis using**
 - Encase, FTK and similar tools
- **Iris Recognition using**
 - DSP and machine learning
 - User authentication and identification using smart card and biometrics
 - MATLAB
 - Smart card SDK
 - DSP and machine learning

Industry Projects

- **Consultations, Planning and Recovery:** Consulting and planning for enhancing a clients Portal with public key infrastructure (PKI) related Services (renewing NIDs, driving licenses and citizen's services. Devised enterprise security strategies safeguarding information assets and ensuring compliance with regulatory mandates.
 - **Government Sector:** Assisted in the development and launch of secure, recoverable and fault-tolerant systems for data access and identity management using e-signature and PKI technology for dozens of government entities, ministries and governmental agencies.
 - **Financial Sector:** Led business-critical information security initiatives for a number of banks, some large Banks and the ministry of financial involving encryption of customer data to ensure compliance with related laws and legislations, as well as applying digital signature and PKI for online authentication for clients and approvals.
 - **Training and Awareness:** Provided basic information and cyber security trainings as well as cyber security awareness programs for several corporations, institutes in both private and public sectors as well as employees cyber security awareness programs.
 - **Infrastructure:** I was one of the team who implemented from scratch one of the E-signature trust centers, including switches, firewalls, IPS, Proxies, OS, clustering and PKI services.

I also Led comprehensive security infrastructure upgrades (e.g., firewall upgrade, intrusion detection, token-based authentication and remote management) for local Certificate Authorities and the E-signature trust center.
 - **Risk Management and Compliance:** Protected vulnerable networks following detailed risk assessments/management/governance following ISO 27001 guidelines (creating and filling templates, CP and CPS). Guided cross-functional teams in the design, validation, acceptance testing and implementation of secure data communications across remote sites for my local workplace as well as several key clients.
-

Skills

Computer:

- **Python**, Bash, PowerShell and Perl Scripting.
- MATLAB.
- OpenSSL.
- Networking (DNS, DHCP, NAT, Proxy, wireless, Anti-virus, Intrusion detection/prevention (IDS/IPS), Virtual private networks (VPN), Switches, Routers, Firewalls, Wireshark).
- Virtual machines (VMware and similar).
- Windows, Linux and Unix (Solaris) administration.
- Database administration (MySQL, Oracle, MS-SQL....).

Languages:

- English
- Arabic

Personal Qualities:

- Optimistic, confident and patient
- Strong organisation & communication/interpersonal
- Adept multi-tasker
- Dedicated team player
- Detail-oriented

Referees

Academic

Prof. Michael Sheng

PhD Supervisor
Macquarie University
Mobile: +61 2 9850 9505

Prof. Surya Nepal

Co- Supervisor
Data61- CSIRO
Email:
surya.nepal@data61.csiro.au

Dr. Wei Emma Yang

Co- Supervisor
University of Adelaide
Email:
wei.e.zhang@adelaide.edu.au

Working

Angus Haynes

Security Risk Manager
Rabobank Australia
Mobile: +61466331727

Sherif Hazem

ESCC manager
ESCC
Mobile: +201001678688
Email:
dr.sherifhazem@gmail.com

Sherif Hashem

Vis-President for IT
ITIDA
Email: shashem@tra.gov.eg