

# Hala Hamadeh

## EDUCATION

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### IOWA STATE UNIVERSITY

Ames, IA- USA

Ph. D, Computer Engineering

2015 – 2020

Major area of specialization: security and reliable computing

Dissertation title: Design, implementation, and analysis of efficient tools based on PUFs for hardware security applications.

Advisor: Prof. Akhilesh Tyagi

### IOWA STATE UNIVERSITY

Ames, IA- USA

Master of Science, Computer & Electrical Engineering

2012 – 2015

Major area of specialization: VLSI

Thesis title: Assessment of VLSI resources requirement for a sliced trusted platform module (TPM)

Advisor: Prof. Akhilesh Tyagi

### Yarmouk University

Irbid, Jordan

Bachelor of Science, Electronics Engineering

2004 – 2009

## EXPERIENCE

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### JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Irbid, Jordan

*Assistant Professor*

2023-current

### AL-HUSSEIN TECHNICAL UNIVERSITY

Amman, Jordan

*Adjunct Assistant Professor*

2021-2023

- Teaching and supervising undergraduate students.
- Grading assignments and exams.

### IOWA STATE UNIVERSITY (Computer Engineering Department)

Ames, IA- USA

*Research Assistant*

2017 – 2018

- Designing CFI framework through Performance Monitoring Unit (PMU).

### IOWA STATE UNIVERSITY (Industrial Engineering Department)

Ames, IA- USA

*Research Assistant*

2016 – 2017

- Designing and Programming software solution using C#.

### JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Irbid, Jordan

*Teaching Assistant*

Spring 2012

- Teaching and supervising undergraduate students in Labs.
- Grading assignments and exams.

### APPLIED SCIENCE UNIVERSITY

Amman, Jordan

*Junior Lecturer*

2010 – 2011

- Teaching and supervising undergraduate students in Labs.
- Designing experiments for some Electronics Laboratory.

## **BRMAJIYAT COMPANY**

*Project manager*

**Irbid, Jordan**

*2009 – 2010*

- Designing and Programming software solution using .net application and SQL/ORACLE as a database.

## **SKILLS**

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- Proficient in C#, C++; SQL; HSPICE; Verilog; MATLAB/Simulink; MS Office; Excel.
- Past experience in Cadence; VHDL.
- Other: Unix/Linux; LATEX.

## **INTERESTS**

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- Academic: Hardware Security; VLSI design; Physical unclonable functions (PUFs); IoTs; Machine learning.
- Personal: Cake decoration; Art; Sewing.
- Current Research: Verifiable computation.

## **PUBLICATIONS**

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### **Journals:**

- H. Hamadeh, S. Chaudhuri, and A. Tyagi. "Area, energy, and time assessment for a distributed TPM for distributed trust in IoT clusters." *Integration* 58 (2017): 267-273.
- H. Hamadeh and A. Tyagi, "An FPGA Implementation of Privacy Preserving Data Provenance Model Based on PUF for Secure Internet of Things." 2020, *SN Computer Science*, SNCS-D-20-00801R2.
- H. Hamadeh and A. Almomani, "Security and privacy for the internet of drones based on PUF", under review.
- H. Hamadeh, "Machine learning-based software modeling attacks to the SW-PUF and the reversible SW-PUF", under review.

### **Conferences:**

- H. Hamadeh, S. Chaudhuri, and A. Tyagi. "Area, Energy, and Time Assessment for a Distributed TPM for Distributed Trust in IoT Clusters." in 2015 IEEE International Symposium on Nanoelectronic and Information Systems (iNIS), pp. 225-230. 2015.
- H. Hamadeh and A. Tyagi, "Physical unclonable functions (pufs) entangled trusted computing base," in 2019 IEEE International Symposium on Smart Electronic Systems (iSES) (Formerly iNiS). IEEE, 2019.

- H. Hamadeh and A. Tyagi, “Privacy Preserving Data Provenance Model Based on PUF for Secure Internet of Things,” in 2019 IEEE International Symposium on Smart Electronic Systems (iSES) (Formerly iNiS). IEEE, 2019.
- H. Hamadeh, A. Almomani and A. Tyagi, “Probabilistic Verification of Outsourced Computation Based on Novel Reversible PUFs,” in European Conference on Service-Oriented and Cloud Computing, pp. 30-37. Springer, Cham, 2020.

## **SCHOLARSHIPS AND AWARDS**

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- Best Paper Award in IEEE International Symposium on Smart Electronic Systems conference, 2019.
- Fund Travel Grant, for admission in IEEE International Symposium on Smart Electronic Systems conference, 2019.
- Fully Funded Ph.D Degree from Iowa State University 2015.
  
- Participation and presentation in National Technology Parade 2008.
- Participation and presentation in scientifically week in Hijjawi collage 2008.
- Certificate of Merit from Yarmouk University for scientific excellence 2005.