Mounir **Nasr Allah**
PHD STUDENT IN COMPUTER SECURITY AT CENTRALESUPÉLEC

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|　⬚ https://github.com/mounirnasrallah　|　🔗 https://fr.linkedin.com/in/nasrallahmounir/en

Experience

PhD Student in Computer Security
Rennes, France

CIDRE TEAM - CENTRALESUPÉLEC
November 2015 - Present

- Directed by Ludovic Mé and supervised by Guillaume HIET and Pascal COTRET, I am involved in the HardBlare project. HardBlare proposes software/hardware codesign methodology to ensure that security properties are preserved all along the execution of the system but also during file storage. The general context is to address Dynamic Information Flow Tracking that generally consists in attaching tags to denote the type of information that are saved or generated within the system.
- For this purpose we using a bunch of customized system-level tools (compiler, loader, linker, kernel modules) and modern CPU features (debug and trace components). This solution provides a non-invasive technique of the CPU and take advantage of a dedicated coprocessor for tag propagation and computation.
- We developing a prototype of the system on a SoC platform that combines an ASIC main processor (ARM) coupled with an FPGA, such as Xilinx Zynq devices.

Research Intern
Cambridge, United Kingdom

OCAML LABS - UNIVERSITY OF CAMBRIDGE
March 2015 - August 2015

- Supervised by Thomas Gazagnaire, I developed two backends for Irmin project. The first one is an encryption backend "irmin-krypto", and the second one is "irmin-chunk" for storing blobs into chunks to allow fast random-access operations (read and write). Irmin project is a distributed database inspired by Git who is able to run within a Unikernel.

Research Intern
Paris, France

LABORATORY OF COMPUTER SCIENCES LIP6
April 2014 - August 2014

- Supervised by Guénaël Renault, I studied number theory and implemented the Carl Pomerance's attack: the quadratic sieve.

Education

PhD Student in Computer Security
Rennes, France

CIDRE TEAM - CENTRALESUPÉLEC
November 2015 - Present

- Directed by Ludovic Mé and supervised by Guillaume HIET and Pascal COTRET, I am involved on the HardBlare project.

Student in Innovation and Entrepreneurship
Rennes, France

EIT DIGITAL DOCTORAL SCHOOL
November 2015 - Present

- The ambition of EIT Digital is to educate a new generation of tomorrow's leaders in Digital technologies, as an answer to the evolving needs of the European economy. The EIT Digital Doctoral School on ICT Innovation innovates with a new kind of doctoral programme based on offering a deep expertise in key digital areas together with a strong background in Innovation and Entrepreneurship. It creates a unique experience combining research, innovation, entrepreneurship, industry involvement and pan-European mobility.

MSc. in Security, Reliability, and Performance
Paris, France

PIERRE AND MARIE CURIE UNIVERSITY
2014 - 2015

- Cryptology, Side channel attacks, High-performance computer architecture, Multi-core kernels and virtualization, iOS/Android and JavaCard Applet development, kernel and drivers programming, very-large-scale integration, network architecture.

BSc. in Computer Sciences, International program
Paris and Montréal

PIERRE AND MARIE CURIE UNIVERSITY
2010 - 2013

- Six months exchange program at HEC Montréal and University of Montréal, Québec, Canada.

Activities and Interests

Elected member to the council of the MATISSE doctoral school
Rennes, France

MATISSE DOCTORAL SCHOOL
November 2015 - Present

- The Matisse doctoral school gathers the doctorate students preparing a thesis or PhD in Mathematics and Applied Mathematics, Computer sciences, Computer automation, Robotics, Signal and Image processing, Electronics and Microelectronics and Optoelectronics and Microwaves in seven institutions: Université de Rennes 1, Agrocampus Ouest, École Normale Supérieure de Rennes, Institut National des Sciences Appliquées de Rennes, CentraleSupélec, Télécom Bretagne, Université Rennes 2.

Co-founder and co-president
Paris, France

SFPN ALUMNI
September 2015 - Present

- The organization is for current and former students of the MSc. in Computer Security SFPN

Co-founder, co-president, and treasurer
Paris, France

BIÈRE ET BAIN-MARIE CURRY
September 2015 - Present

- This organization has been created to inform about cooking and nutrition. Organize cooking events, bringing students together to learn new recipes, discover new cultures, get together in order to eat and have fun at reasonable prices.

Member of the staff organization CHES 2015
Saint-Malo, France

WORKSHOP ON CRYPTOGRAPHIC HARDWARE AND EMBEDDED SYSTEMS 2015
September 2015

Languages

French, Fluent
English, intermediate
Berber, Beginner
Arabic, Beginner

Publications

2016 **HardBlare: a Hardware-Assisted Approach for Dynamic Information Flow Tracking**, Mounir Nasr Allah, Guillaume Hiet, Muhammad Abdul Wahab, Pascal Cotret, Guy Gogniat, Vianney Lapôtre, *Séminaire des doctorants en informatique*

2016 **A portable approach for SoC-based Dynamic Information Flow Tracking implementations**, Muhammad Abdul Wahab, Pascal Cotret, Mounir Nasr Allah, Guillaume Hiet, Vianney Lapôtre, Guy Gogniat, *11ème Colloque National du GDR SoC/SiP*

2016 **A hardware coprocessor for Zynq-based Dynamic Information Flow Tracking**, Muhammad Abdul Wahab, Pascal Cotret, Mounir Nasr Allah, Guillaume Hiet, Vianney Lapôtre, Guy Gogniat, *Cryptarchi*

2016 **Towards a hardware-assisted information flow tracking ecosystem for ARM processors**, Muhammad Abdul Wahab, Pascal Cotret, Mounir Nasr Allah, Guillaume Hiet, Vianney Lapôtre, Guy Gogniat, *26th International Conference on Field-Programmable Logic and Applications*