
Meriem Turki | Computer science engineer, PhD student

Ferrara, Italy

Education

Academic Qualifications.....

Engineering department of the University of Ferrara	Ferrara
◦ <i>PhD student, MPSoC research group</i>	<i>2017–2020</i>
National school of computer sciences	Manouba
◦ <i>Computer engineering, Embedded software and systems, diploma with honours</i>	<i>2014–2016</i>
Preparatory School of engineering Studies of Sfax	Sfax
◦ <i>Physics and Chemistry, Diploma of engineering preparatory cycle</i>	<i>2012–2014</i>
Habib Maazoun High School	Sfax
◦ <i>experimental science, Scientific diploma with Honours</i>	<i>2008–2012</i>

Notable Projects.....

- **January 8th - On going: PhD project** 'Toward an elastic communication architecture for computing system at the edge'
This project intends to design a hardware support which is an elastic compute environment that requires an Interconnection subsystem (network-on-chip, NoC) that can spatially-isolate services and can easily and quickly reconfigure the partitioning pattern.
- **March 2nd - July 31st: End of studies project** 'Prototyping of a standard open multi-core architecture interconnected by a 2x2 on-chip network'
This project intends to design and prototype on a cutting-edge Xilinx FPGA device a multi-core system based on a standard open processor core architecture.
With respect to state-of-the-art open-sourced, Linux-capable SoCs, this project aims to improve scalability by integrating an on-chip interconnection network capable of reconfigurable space partitioning. This thesis project is a collaboration between ENSI Tunis and University of Ferrara (Prof. Bertozzi).
- **December 1st - February 1st: Integration project** 'A VHDL implementation of the Advanced Encryption Standard Algorithm (AES)'
In this project I implemented the encryption and decryption process of the Advanced Encryption Standard Algorithm; I also built the control unit for the two processes as well as the key generator.
- **November 1st - December 1st: Artificial Intelligence project** 'Smart Pot'
I considered developing an expert system that accepts the characteristics of plants as inputs. Those characteristics will allow the determination of the class to which the plant belongs. Regarding this class, the system will determine the frequency of its watering while specifying the precautions to be taken and

any eventual anomalies that can arise.

- **July 1st - August 31st: Internship** *'Development of customs transit management module using PHP5'*

This Internship was performed at the Tunisian company of Electricity and gas in the computer science department. The main goal of the internship was to develop a web site using PHP and symfony Framework. The Web site facilitates the transit process by having ready forms, generating PDF files and statistics

- **March 1st - May 1st: Development and conception project** *'Development of an indoor positioning solution'*

This solution is based on small hardware modules (called nodes) installed at fixed locations and registered on a server. These nodes scan the area and upload the captured position to the cloud through a gateway. This project is a collaboration between ENSI and the company 'ARDIA'

- **July 1st - September 1st: Development project** *'Development of a steganography encoder/decoder tool'*

This project was performed at the university (ENSI) in the first year. The developed tool aims to hide a secret text in a .BMP image. Also, it can decode the secret text.

I used c++ to develop the encoder/decoder and the Qt Library to create the tool's interface.

- **arch 1st - May 1st: C project** *'2D super mario game'*

I am part of a team developing 2D Super Mario game. It was developed at the university (ENSI) in the first year. The game was developed using C language and the interface was created using SDL Library

International Working and Educational Experiences

- I attended the certified Fifteenth International Summer School on Advanced Computer Architecture and Compilation for High-Performance and Embedded Systems, where I submitted an abstract and I present a poster
- Teaching computer architecture (Architettura degli elaboratori) lab at University of Ferrara (Italy) during 30 hours
Major depth: Modeling combinational and sequential blocs using systemC, and MIPS ISA.
- I attended the certified Fourteenth International Summer School on Advanced Computer Architecture and Compilation for High-Performance and Embedded Systems, where I submitted an abstract and I present a poster
- Teaching the systemC lab at University of Ferrara (Italy) during 15 hours
Major depth: SystemC basics, channels, RTL and TLM.
- Internship at the Engineering Department at University of Ferrara (Italy)
Major depth: FPGA programming for the prototyping of advanced multi-core systems-on-chip on cutting-edge FPGA devices. Key expertise gained in computer architecture.
- Research-oriented course taken in "on-chip interconnection networks and network-enabled Systems-on-chip", given by prof. Davide Bertozzi (University of Ferrara) at ENSI Tunis in December 2016 in the context of ENSI's internationalization activities.
- I participated in the IoT: School & Workshop, Tunis 2016. It covered the following important topics: Overview of IoT applications, standardization in IoT and the presentation of emb::6 and emb::TLS presented by Prof. Dr-Ing Axel Sikora

Technical and Personal skills

- o **Programming Languages:** Proficient in: C, C++,systemc, python, scala, chisel, MySQL, Shell, Embedded linux, UML, TeX, Assembly,VHDL/verilog, basic ability with: OpenMP.
- o **Languages:** Arabic (Mother tongue), French (Bilingue), English (Fluent), German (Sholar), Italian (Certified level A2, 30/30).

Interests and extra-curricular activity

- o I was a member of the executive board of security club in 1st and 2nd years in ENSI. this required me to guide, work in a team and with the sponsoring comity, organise the events, requiring new skills in security especially cryptography and steganography.
- o Volunteer for the organisation of Ensi's annual forum (editions 2014,2015,2016) which took the following topics: cloud computing and applications (2014), Business Intelligence (2015) and Block-chain & IoT (2016)