AHMED **NAJJAR**

PhD Student | Engineering Science | Telecommunication

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Third-year PhD student in Science Engineering with extensive experience in wireless communications, focusing on the design, modeling, and optimization of Reconfigurable Intelligent Surfaces (RISs).

Education

Apr 2022-Present — **PhD in Science Engineering and Telecommunication**. Dissertation : Electromagnetic-Based Modeling and Optimization of Reconfigurable Intelligent Surfaces, **CentraleSupelec, France**

Sep 2018-Jan 2021 — **Master's in Micro-Nano Electronics | Telecommunication.** Thesis : Implementation of Reconfigurable Intelligent Surface with Index Modulation,**Faculty of Science of Monastir, Tunisia**

- Grade : With distinction

Sep 2014-June 2017 — **Bachelor's in Electronics, Electrotechincal and Automation**,Faculty of Science of Monastir, Tunisia

- Grade : With distinction

June 2014 — **High school Diploma** High School of Ksour Essef, Tunisia

- Grade : With distinction

Professional Experience

April 2022 Present — **Research Assistant , L2S Laboratory,**

- Design and modelling of RIS using Electromagnetic frameworks.
- Optimizing RIS Performances using advanced optimization approaches .
- Testing and evaluation RIS performance.

Matlab | Python | Latex

January 2021 April 2022 — **Research Assistant, LASEE Laboratory,**

Research on performance enhancement of RIS assisted-Network systems.

- Index modulation to improve channel capacity
- developing deep Learning algorithms for channel estimation

Matlab | Python | Latex

August 2020 Septembre 2020 — **Industry Internship, SANCELLA group,**

Programming an alarm in case of mechanical engine cluch failure of an industrial automaton packer Siemens S7-1500 with Tia-Portal Software

Tia Portal

June 2017 Septembre 2018 — **Research Assistant, Faculty of Science of Monastir,**

Telecommunication Engineering

Python | Matlab | Latex

January 2017 June 2017 — **Bachelor's Graduation Project , Faculty of Science of Monastir,**

Design and realization of a standalone guard robot.

- Detecting the movement of objects in a spatial interval and alerting if the target is unknown.

Arduino | Processing

June 2016 July 2016 — **Summer Internship, Habib Bourguiba International Airport of Monastir,**

Monitoring and maintenance of Aireport generator

Skills

Academic Skills	Electronics, Electrical, Powerelectronics, Applied Mathematics Signal and Image processing, Wireless Communication, Automatic, Artificial Intelligence
Practice Software	C,C++, MATLAB,Python,HFSS, Tia-Portal, Latex, Microsoft office(Word,PPT, Excel,...)

Languages

English	●●●●●
French	●●●●○
German	●●○○○
Arabic	●●●●●

Forces

- read, written and spoken
- read, written and spoken
- Basics
- Mother Language

Certifications

ISO-9001 V2015 : Quality Management
Time Management
Machine Learning/Deep Learning in Python
Presentation Skills
Communication Skills

Previous and Current Research

M.Sc. Thesis 2018 - 2021

The main objective of my thesis was to propose modulation techniques that enhance the conventional Reconfigurable Intelligent Surface (RIS) performance, increase spectral efficiency, and improve energy efficiency of the system. I focused on the implementation and analysis of the following areas :

- RIS with Spatial Modulation (SM) for BER performance enhancement
- RIS with Space Shift Keying (SSK) for BER performance enhancement

PhD Research 2022 - Present

My main focus now is to design, model, and implement an Intelligent Reconfigurable Surface (RIS) using electromagnetic frameworks to integrate it into the next generation of wireless communication (6G).

Referees

Prof. Marco Di Renzo
CentraleSupelec | CNRS, Professor
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