



# Ahmad Mahmod

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## EDUCATION AND TRAINING

NOV 2023 – CURRENT STRASBOURG, France

**PHD IN SOFTWARE DEFINED LOW-POWER AND LOSSY WIRELESS NETWORKS** Strasbourg University - ICube Lab

**Website** <https://icube.unistra.fr>

1 OCT 2021 – 17 OCT 2023 Cosenza, Italy

**MSC IN TELECOMMUNICATION ENGINEERING: SMART SENSING, COMPUTING AND NETWORKING** University of Calabria

**Website** <https://www.unical.it>

15 JUN 2014 – 1 JUL 2019 Latakia, Syria

**BSC IN TELECOMMUNICATION AND ELECTRONICS ENGINEERING** Tishreen University

**Website** <http://www.tishreen.edu.sy/> | **Field of study** Information and Communication Technologies |

**Final grade** 93.00%, The best graduates score of the university | **National classification** 1 |

**Thesis** Millimeter Waves (mmWs) Channel Simulation using MATLAB

**GOOGLE IT AUTOMATION WITH PYTHON PROFESSIONAL CERTIFICATE** Coursera

**Website** <coursera.org/verify/specialization/ML8UVBHY8NGK>

**DEEP LEARNING** Coursera - DeepLearning.AI

**Website** <coursera.org/verify/specialization/77KSYSNUTB7V>

**MACHINE LEARNING** Stanford Online

**Website** <https://coursera.org/share/5c64be77f12186471f5b87a1289707d7>

## WORK EXPERIENCE

**UNIVERSITY OF STRASBOURG** – STRASBOURG, FRANCE

**TEACHER** – 1 SEP 2024 – CURRENT

Courses: Internet of Things (IoT).

**SKILLS AND CAREER CENTER - TISHREEN UNIVERSITY** – LATAKIA, SYRIA

**TELECOMMUNICATIONS WORKSHOPS TRAINER** – 1 JAN 2019 – 1 JAN 2021

Workshops in:

- Programming Languages (Python and MATLAB)
- Networks Programming using Python (design sockets TCP and UDP, SDN controllers, mininet)
- Telecommunication Systems Simulations using MATLAB (channels, coding, modulation, MIMO)

## LANGUAGE SKILLS

Mother tongue(s): ARABIC

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	C1	C2	B2	B2	C2
<b>FRENCH</b>	B2	B1	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## SKILLS

### Programming Languages

Python | C/C++ | MATLAB | Java

### Internet of Things (IoT)

RIOT OS | Zeypher OS | Contiki-ng OS

### Deep Learning and Neural Networks

TensorFlow | Keras | Matplotlib | Numpy | PyTorch | Pandas | Flower Framework

### Software Defined Networks (SDN)

Opendaylight Controller | Ryu Controller | POX Controller | Mininet | Open vSwitch | OpenFlow Protocol | Mininet Wifi

## PUBLICATIONS

2025

### [\*\*PENSIL: Programmable network stack for low-power lossy IoT networks using lightweight-virtualization\*\*](#)

**Journal Name:** Elsevier Internet of Things Journal

2025

### [\*\*Programmable Solutions for Low-power Lossy Wireless Networks: A Study of SDN and Femto Containers\*\*](#)

International Conference on Advanced Information Networking and Applications

2024

### [\*\*The Role of SDN to Improve Client Selection in Federated Learning\*\*](#)

IEEE Communications Magazine

2024

### [\*\*SDN-Assisted Client Selection to Enhance the Quality of Federated Learning Processes\*\*](#)

IEEE Wireless Communications and Networking Conference (WCNC)

2024

### [\*\*Menu or a la carte? An architecture for programming the data plane of constrained wireless networks\*\*](#)

CoRes Conference

2023

### [\*\*Improving the quality of Federated Learning processes via Software Defined Networking\*\*](#)

NetAlSys '23: Proceedings of the 1st International Workshop on Networked AI Systems - Article No: 6

## ● PROJECTS

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1 MAY 2022 – CURRENT

### Improving the Quality of Federated Learning using SDN

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**Objective:** Exploit the characteristics of **SDN networks** to enhance the QoS of the Federated Learning applications depending on the networking concepts such as *delay* and *routing*. The project is serving under what called '*Networking for AI*'.

**Results:** The introduction of SDN to FL has shown enhancement in performance achieving the target performance indicators in less time and increasing the reliability of the network under FL process.

**Skills:** GNS3, OpenDayLight Controller, Open V Switches, VMware, Virtual Box, OpenFlow and Python.

1 JAN 2023 – 5 APR 2023

### RSNA Screening Mammography Breast Cancer Detection

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**Objective:** The objective of this project was to develop a convolutional neural network (CNN) model to identify cases of breast cancer in mammograms from screening exams.

**Results:** The CNN model achieved an accuracy of 99% on the test set. This is a competitive accuracy compared to other methods for breast cancer identification in mammograms.

**Skills:** Machine learning, Deep learning, Computer vision, Image processing, Python, TensorFlow and Kaggle

1 DEC 2022 – 15 MAR 2023

### Contradictory, My Dear Watson: Detecting contradiction and entailment in multilingual text

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**Objective:** The objective of this project was to develop a model to classify pairs of sentences as entailment, neutral, or contradiction.

**Results:** The RoBERTa model achieved an accuracy of 82% on the test set. This is a very good accuracy compared to other methods in the same competition.

**Skills:** Machine learning, Natural language processing, Deep learning, Python, TensorFlow, Hugging Face and Kaggle

1 MAR 2022 – 1 AUG 2022

### Skin Diseases Detector App

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**Objective:** Provides an instant service to detect the skin diseases that the patient suffer from.

**Methods:** It uses CNN network (MobileNet V2) modified using "transfer learning" to detect the disease that is integrated then in the Android app using TensorFlow Lite 'TFLite'.

**Results:** The application enable the user to upload or take a photo directly for the skin surface of the injury. Multiple services after the detection has been implemented: a general view of the diagnosed disease, the best medicine for the diagnosed diseases, Send Email or an SMS to the doctor of the patient.

**Skills:** Android Studio, Java, TFLite, Deep Learning, CNN.

Link [https://drive.google.com/file/d/1yPSsJovcg17ILq\\_AP-t9CcFd3zGRAm87/view?usp=sharing](https://drive.google.com/file/d/1yPSsJovcg17ILq_AP-t9CcFd3zGRAm87/view?usp=sharing)

1 JUL 2018 – 1 JUL 2019

### Millimeter Waves (mmWs) Telecommunications Channel Simulation (BSc Thesis)

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**Objective:** The main idea was about developing a model for Millimeter Waves (mmW) used in 5G.

**Methods:** Starting from a real data obtained using **NYUSIM** that is use real values measured in specific scenarios then, we developed a model in MATLAB that represent this channel.

**Results:** The developed model can be used then for channel-performance evaluation tasks like **Bit Error Rate (BER)** and **Signal to Noise Ratio (SNR)** and **Channel Capacity** as shown in the final results that used Alamouti Coding to achieve both Time and Space Diversity.

**Skills:** Wireless Channel, Millimeter Waves, MATLAB, MIMO.

## ● HONOURS AND AWARDS

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2023

### Excellent Prize for First Graduate – University of Calabria

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Final GPA: 110 (with honor) / 110

2022

## **Excellent Prize for First Ranked Student – University of Calabria**

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Accumulative GPA: 30/30

2020

## **Excellence Certificate for First Graduate – Tishreen University**

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The most important academic excellence certificate in Syria for Graduates. Final GPA: 93%.

## **Excellence Certificate for the Distinguished in Academic Study (First, Second, Third and Fourth Year) – Tishreen University**

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2015, 2016, 2017, 2018.

The most important academic excellence certificate in Syria.

### **• VOLUNTEERING**

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1 JAN 2019 – 1 JAN 2021 Tishreen University, Skills and Career Center, Latakia, Syria

#### **Trainer**

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Volunteer trainer for two years in Programming and Networks Programming using Python and Telecommunication Systems Simulations using MATLAB.