Ahmad Mahmod

Date of birth: 31 Oct 1996 | **Nationality:** Syrian | **Gender:** Male | **Email address:** ahmad.nawras.mahmod@gmail.com | **Email address:** mahmod@unistra.fr | **Website:** https://ahmahmod.github.io/ | **LinkedIn:** https://www.linkedin.com/in/ahmadnawrasmahmod/ | **GitHub:** https://github.com/ahmahmod | **Address:** 67000, STRASBOURG, France (Home)

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 MATALAB

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

1 JAN 2017 – 1 JUL 2021 Latakia, Syria
LECTURER BIT INSTITUTE

Teaching multiple subjects:
- Cellular Systems
- Computer Networks and Protocols
- Networks programming using Python

1 JAN 2019 – 1 JAN 2021 Latakia, Syria
TELECOMMUNICATIONS WORKSHOPS TRAINER SKILLS AND CAREER CENTER - TISHREEN UNIVERSITY

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	
ENGLISH	C1	C2	B2	B2	C2
ITALIAN	A2	A2	A2	A2	A2
FRENCH	A2	A2	A2	A2	A2

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

DIGITAL SKILLS

Programming Languages

Python | C/C++ | MATLAB | Java

Networking

TCP/IP | OSI model | CCNA | Routing and Switching | Networks Protcols

IoT

Wireless Sensor Networks | RIOT Operating System | IoT protcol stack

Deep Learning and Neural Networks

TensorFlow | Keras | Matplotlip | Numpy | PyTorch | CNN and RNN | Scikit-Learn | OpenCV | Pandas

Cellular Systems

Mobile Radio Networks: GSM, UMTS, LTE, 5G NR | Multiple Access | Wireless Channel

Wireless Protocols

IEEE 802.15.4 | Bluetooth (Classic and BLE) | WiFi | ZWave | RFID

Android and Android Studio

Software Defined Networks (SDN)

Opendaylight Controller | Ryu Controller | POX Controller | Mininet | Open vSwitch | OpenFlow Protocol | Mininet Wifi | SUMO Mobility Simulator

Federated Learning

Flower Framework

Containerization

Kubernetes | Docker | Namespaces

PUBLICATIONS

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](#)

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

- **PROJECTS**

1 MAY 2022 – CURRENT
Improving the Quality of Federated Learning using SDN

Objective: Exploit the characterstics 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 serveing 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, OpenDayLihgt Controller, Open V Switches, VMware, Virtual Box, OpenFlow and Python.

1 JAN 2023 – 5 APR 2023
RSNA Screening Mammography Breast Cancer Detection

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

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

1 MAR 2022 – 1 AUG 2022
Skin Deases Detector App

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 intergrated 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 Leaning, CNN.

Link https://drive.google.com/file/d/1yPSsJovcg17lLq_AP-t9CcFd3zGRAm87/view?usp=sharing

1 JUL 2018 – 1 JUL 2019
Millimeter Waves (mmWs) Telecommunications Channel Simulation (BSc Thesis)

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 channe-performance evaluation tasks like **Bit Error Rate (BER)** and **Signal to Nosie 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

2023
Excellent Prize for First Graduate – University of Calabria

Final GPA: 110 (with honor) / 110

2022
Excellent Prize for First Ranked Student – University of Calabria

Accumulative GPA: 30/30

2020
Al-Basel Certificate for First Graduate – Tishreen University

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

Al-Basel Certificate for the Distinguished in Academic Study (First, Second, Third and Fourth Year) – Tishreen University

2015, 2016, 2017, 2018.
The most important academic excellence certificate in Syria.

VOLUNTEERING

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

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