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 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

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	
ENGLISH	C1	C2	B2	B2	C2
FRENCH	B2	B1	B1	B1	B1

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

SKILLS

TCP/IP | OSI model | CCNA | Routing and Switching | Networks Protcols | Mobile Radio Networks: GSM, UMTS, LTE, 5G NR | Multiple Access | Wireless Channel | IEEE 802.15.4 | Bluetooth (Classic and BLE) | WiFi | ZWave | RFID | Kubernetes | Docker | Namespaces

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 | Matplotlip | Numpy | PyTorch | Pandas | Flower Framework

Software Defined Networks (SDN)

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

PUBLICATIONS

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

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

Excellence Certificate for First Graduate – Tishreen University

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

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.