Ahmed-Rafik-El Mehdi BAAHMED

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EDUCATION

National Higher School of "Arts et Métiers" (ENSAM) - Doctoral School SMI 432	**Paris, France**
CESI, CESI LINEACT UR 7527	**Strasbourg, France**
Ongoing Computer & Engineering Sciences Ph.D. degree	*December 2023 – December 2026*
Higher School of Computer Science 08 May 1945 - Sidi Bel Abbes (ESI SBA)	**Sidi Bel Abbes, Algeria**
*Systems engineering Master degree	State Engineer Diploma in Systems engineering*	*September 2018 – July 2023*
El Nadjah High School	**Sidi Bel Abbes, Algeria**
Baccalaureate in Mathematics field - graduation with honors	*July 2018*

WORK EXPERIENCE

National Higher School of "Arts et Métiers" (ENSAM) - Doctoral School SMI 432   **Paris, France**

CESI, CESI LINEACT UR 7527   **Strasbourg, France**

Ph.D. Student/Candidate in Computer & Engineering Sciences   *December 2023 – December 2026*
- Thesis Title: "Computational Efficiency of Federated Learning techniques on Edge-Cloud Infrastructures"

CESI Engineering school   **Strasbourg, France**

Adjunct Lecturer in Computer Science   *September 2024 – April 2026*
- "Artificial Intelligence" Course
- "Object-Oriented Design and Programming" Course
- "Computer Networks & System Administration" Course
- "Arithmetic & Cryptography" Course
- "Programming Paradigms" Course
- "Python for Signal Processing" Course

INSA Lyon – LIRIS Laboratory   **Villeurbanne, France**

Deep Learning Intern – Engineering & Master thesis   *February – July 2023*
- Master Thesis Title: "eXplainable Artificial Intelligence on Graph Neural Network-Based Network Intrusion Detection Systems"
- Engineer Thesis Title: "E-GNNExplainer: Single-Instance Explanation of Edge-Classification Graph Neural Networks-based Network Intrusion Detection Systems"

HASNAOUI Group of Companies   **Sidi Bel Abbes, Algeria**

Network Engineer Intern   *September 2021*

LEADERSHIP EXPERIENCE, ACTIVITIES & SCIENTIFIC PRODUCTION

Internet of Things Journal [ISSN 2542-6605] [Q1, IF 7.6]   **Online**

Authorship and Publication in the prestigious Internet of Things Journal   *January 2026*
- Published article: "HiFEL-OCKT: Hierarchical Federated Edge Learning with Objective Congruence and Multi-Level Knowledge Transfer for IoT Ecosystems"

IWCMC 2024 [rank B Conference]   **Ayia Napa, Cyprus**

Authorship, presentation and participation in the 20th IWCMC Conference   *May 2024*
- Published article: "Hyperparameter Impact on Computational Efficiency in Federated Edge Learning"

ECML PKDD 2023 [rank A Conference]   **Turin, Italy**

Authorship, presentation and participation in the ECML PKDD Conference   *September 2023*
- Published article: "Using Graph Neural Networks for the Detection and Explanation of Network Intrusions"

Project Manager & Developer of "Alzheimer-AI" project
- A Computer Vision and Deep Learning-Based "Early Detection of Alzheimer's Disease System" using multiple approaches   *November 2022 – February 2023*

COC'2022   **Online**

Authorship and presentation in the international Connected Objects and Systems Conference   *May 2022*

- Published article: "Computer Vision and Deep Learning-Based support system for Visually Impaired People in an outdoor environment"

Project Manager & Developer of an "ArtificialEye" project

- A Computer Vision and Deep Learning-Based support system for Visually Impaired People in an outdoor environment   *March – July 2022*

CICT'2022   **Online**

Presentation in the 1st national Conference on Information and Communication Technology   *February 2022*

Project Manager & Web Developer of "LECTIO" An e-book Website   *December 2021 – March 2022*

Web Developer and Quality Insurance Manager of "HEALTHLINE" project A health web application

April – September 2021

Developer & Organizer in the national AlphaBit Coding Challenge Event (3rd Edition)   *March – June 2021*

COC'2021   **Online**

Authorship and presentation in the international Connected Objects and Systems Conference   *March 2021*

- Published article: "CONCEPTION D'UNE STATION MÉTÉO INTELLIGENTE"

Cybersecurity Instructor & Trainer in AlphaBit Scientific Club   *March – October 2021*

Vice-President of AlphaBit Scientific Club   *January – October 2021*

Project Manager & Developer of "ESI Weather" project an AI-based weather station   *March – October 2020*

SKILLS & INTERESTS

IT Skills

- Machine Learning, Deep Learning, Federated Learning and Computational Intelligence paradigms.
- Neural Networks Development (Attention, RNN, GraphNN, CNN, DNN, Reservoir Computing).
- Data mining and Data analytics.
- Explainable Artificial Intelligence.
- Computer vision and Image processing.
- IoT Development and Solution Architecture (Edge-Fog-Cloud).
- Arduino and Raspberry Pi.
- Graph theory and Geographic Information Systems.
- Problem solving and automating tasks.
- **Programming:** Python, C/C++, Pascal, JavaScript — TensorFlow, Keras, PyTorch, sickit-learn, numpy, pandas, matplotlib, multiprocessing, multithreading, SQL, Git, GitHub, Docker.
- **Technologies:** WSN, LoRa, Sigfox, MQTT Protocol, Kafka Broker, IoT Cloud Platforms.

Soft Skills

- Leadership and project management.
- Critical thinking and problem solving.
- Public speaking, sense of communication, listening, organization and team spirit.
- Time management, punctual, determined, flexible and dynamic.

Languages: English, French, Arabic.

Interests:

- Efficient AI, edge intelligence, learning paradigms and collaborative IoT.
- Data science, neuroscience, astronomy and astrophysics.
- Traveling, learning, reading and drawing.

CONTACTS

Portfolio: https://eagleeye1107.github.io/
LinkedIn: https://linkedin.com/in/ahmed-rafik-el-mehdi-baahmed-7552311a0
GitHub: https://github.com/EagleEye1107