

Amna Boughamoura

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EDUCATION

Fatouma Bourguiba Monastir High School

Baccalaureate in Experimental Sciences with Honors

2022

Monastir, Tunisia

Higher Institute of Informatics and Mathematics of Monastir (ISIMM)

Bachelor's Degree in ICT - Information and Communication Technology (IoT Networks)

2022 – Present

Monastir, Tunisia

ACADEMIC PROJECTS

Daily Wellness Assistant (PFA Project)

Founder & Lead Developer

Sep. 2025 – Dec. 2025

Monastir, Tunisia

- Built an AI- and IoT-based wellness and productivity assistant that integrates real-time emotion recognition using DeepFace and OpenCV, presence detection via a PIR sensor, and adaptive environmental control to enhance user focus and comfort during study sessions.
- Implemented music-driven LED behavior, where ambient lighting dynamically changes according to the selected music genre (focus, calm, energy, lo-fi), creating an immersive and responsive environment.
- Integrated environmental monitoring using a DHT11 sensor, displaying real-time temperature and humidity levels on an LCD screen to provide contextual awareness of room conditions.
- Developed a full-stack web interface enabling emotion visualization through a live emotion curve, session management (Pomodoro timer), task and reminder tracking, presence feedback, and personalized motivational responses, forming a human-centered, privacy-respecting system that combines AI insights with physical environment interaction.

Intelligent Home Automation System (PFA Project)

IoT Developer

Jan. – May 2025

Monastir, Tunisia

- Built a **real-time IoT-based smart home system** integrating Arduino boards, sensors (DHT11, LM35, LDR, soil humidity), and actuators.
 - Developed a **mobile application & LCD interface** for monitoring temperature, humidity, and lighting.
 - Automated irrigation and room lighting with manual/remote override via mobile app.

EXTRACURRICULARS

Tech Pathways MENA Program

Participant

Oct. 2025 – Dec. 2025

Remote / MENA Region

- Selected to join the **regional Tech Pathways MENA Program**, organized by **Afkar** and **MinnaLearn**, focusing on technology, innovation, and professional development.
- Participated in **online workshops**, collaborative projects, and mentorship sessions aimed at strengthening digital, entrepreneurial, and soft skills across the MENA region.

Sahni Startup Project

Co-Founder & Team Leader

2023 – Present

Monastir, Tunisia

- Led Team Sahni in IEEE Internal Pitching Competition (2023), securing 1st place with an IoT- and AI-powered sustainability startup idea.
- Developed and pitched a sustainability-focused startup concept using IoT sensors and AI for smart meal planning and food waste reduction.
- Completed the OSTX Training Program, receiving mentorship on entrepreneurship and business modeling.
- Led website design and prototyping.

IEEE ISIMM Women in Engineering SAG – University-based IEEE affinity group

Vice Chair

Feb. 2023 – Nov 2023

Monastir, Tunisia

- Directed the “WIE Care & Share” Ramadan charity initiative, mobilizing donations to support 10+ families and an orphanage.
- Spearheaded the “WIE Heal 2.0” breast cancer awareness campaign, attended by 50+ students with healthcare professionals.
- Organized the “WIE Motivate” workshop with a life coach, equipping 30+ students with stress-management tools.
- Coordinated a UI/UX design workshop for 15+ participants, enhancing digital and creative skills.

IEEE ISIMM Student Branch

Active Member

Oct. 2022 – Present

Monastir, Tunisia

- Competed in IEEEExtreme 17th edition, ranking 1st at the university and 8th nationally.
- Technical Writer – CRIEEE Challenge (Dec 2022 – Mar 2023): Managed and created social media campaigns to promote the challenge across universities.
- Participated in technical workshops, including Flutter Development, Computer Vision, and Think Like a Programmer.

CERTIFICATIONS, SKILLS, TECHNOLOGIES, LANGUAGES & INTERESTS

- **Certifications:** *IEEEExtreme 17th Edition* (2023) – Ranked 1st at university, 8th nationally; *OSTX Training Program* (2023) – Completed entrepreneurship & startup development program; *Flutter Development Workshop* (2023) – Hands-on training in cross-platform app design.
- **Technologies:** AI; Computer Vision; DeepFace; Emotion Recognition; IoT; Python; C; HTML & CSS; Arduino; Flutter; UI/UX Design;
- **Skills:** Leadership; Teamwork; Problem-Solving; Communication; Event Planning; Adaptability; Project Management.
- **Languages:** Arabic (Native); French (Advanced); English (C2, EF SET 75/100); Korean (Basic); Japanese (Basic); Italian (Basic); Chinese (Basic).