

# Abir Melhem

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## About

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Computer Science undergraduate specializing in Artificial Intelligence and Data Science. Passionate about AI-driven systems, computer vision, deepfake detection, and LLM workflow automation. Hands-on experience in developing, evaluating, and deploying AI models, with strong collaboration in Agile teams.

## Education

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**Bachelor of Science in Computer Science – AI & Data Science Track**  
Beirut Arab University, Tripoli, Lebanon | 2023 – Expected 2026

**High School Diploma – General Sciences (SG)**  
Rawdat Al Fayhaa High School, Tripoli, Lebanon | 2022 – 2023

## Internship Experience

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**AI/ML Engineer Intern**  
TeckTalk | Jan 2026 – Mar 2026

Contributed to **TruthLens**, a deepfake image detection and forensic analysis system.

- Developed and evaluated CNN-based models for detecting manipulated images.
- Improved model performance through validation and metric analysis.
- Integrated AI models into backend systems for real-time inference.
- Collaborated in an Agile team using GitHub, Jira, and Notion.

## Projects

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**Lifespan Age Transformation**  
[GitHub](#) | Spring 2025

- Developed a deep learning model to predict and visualize age progression in facial images using CNNs and OpenCV.

- Implemented preprocessing pipelines for facial data and generated synthetic aging outputs.

### Face Analysis (Real-time Emotion Detection)

[GitHub](#) | Spring 2025

- Built a Python-based application for real-time face detection and emotion recognition with TensorFlow and OpenCV.
- Achieved 92% accuracy on benchmark datasets; implemented facial attribute analysis and live webcam detection.

### Event Management System (Team Project)

[GitHub](#) | Fall 2024

- Collaborated in a team of 4 to develop a relational database using Microsoft SQL Server for managing events and attendees.
- Designed ER diagrams, implemented total disjoint specialization, and wrote advanced SQL queries for insights.

## Publications

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### Article Contributor – LeadMe Academy | 2025

- Authored and published an article on AI applications and technology innovation.
- [Link](#)

## Technical Skills

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- **Languages:** Java, Python, C++, C#, Ruby, R, JavaScript, Kotlin
- **Web Development:** HTML, CSS, React, PHP
- **Databases:** MySQL, SQLite, MongoDB
- **AI/ML:** PyTorch, TensorFlow, scikit-learn, OpenCV, CNNs, Transfer Learning, Image Classification
- **Data Science & Analytics:** NumPy, Pandas, Matplotlib, Seaborn, Microsoft Excel, Power BI
- **Generative AI & Automation:** Prompt engineering, LLM workflow design, n8n automation, AI-assisted development using ChatGPT, Claude, Gemini, NotebookLM, Perplexity, Cursor
- **Model Development & Evaluation:** Data preprocessing, Model training & validation, Precision/Recall analysis, Confusion Matrix, Performance optimization

- **Backend & Deployment:** FastAPI, REST APIs, Model integration & inference
- **Design & Prototyping:** Figma, MIT App Inventor
- **Tools & IDEs:** Git, GitHub, VS Code, Eclipse, PyCharm, Jupyter Notebooks, Google Colab, Jira, Notion

## Certifications

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- IBM Data Science Professional Certificate – Coursera (IBM)
- HCIA – Big Data – Huawei
- AI Basics: Overview of Artificial Intelligence – Huawei
- IC3 GS5 Digital Literacy Certification
- Introduction to Cybersecurity Awareness – HP LIFE

## Community & Professional Development

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- DevFest Attendee – Google Developer Group (2 events)
- Cybersecurity Workshops – Including “Inside the Mind of Ethical Hackers” (Semicolon Security, Nov 2025)
- AI & Machine Learning Workshops – Participated in hands-on sessions and technical talks
- Public Speaking Development – “Voice of Influence” Workshop(DDD Community)

## Soft Skills

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Problem-Solving | Teamwork & Collaboration | Communication & Public Speaking  
| Time Management | Continuous Learning

## Languages

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Arabic (Native) | English (Intermediate) | French (Fluent)