

AMR ABDELBAKY

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EDUCATION

The American University in Cairo (AUC) Egypt

Bachelor of Science in Computer Science With Specialization in Artificial Intelligence
Minor in Mathematics

May 2025
GPA: 3.73
Graduated

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|------------------|--|
| Languages | JavaScript, Solidity, Rust, Python, Verilog HDL, C++ |
| Software & Tools | Git, Docker, LaTeX, ReactJS |
| Course Work | Data Structures & Algorithms, Linear Algebra, Applied Probability, Statistical inference, Graph Theory, Compiler design, Database systems, Fundamentals of Machine Learning, Deep Learning, Computer Architecture, Operating Systems, Practical Data Science, Computer Vision. |

WORK EXPERIENCE

Applied AI Scientist

July 2025 - Present

PwC

- Working on diverse AI application projects across various territories, featuring the utilization of Agentic AI and RAG applications.
- Innovating and implementing AI-powered solutions from concept to deployment, leveraging classical and modern machine learning techniques.

Machine Learning Engineer

Feb 2025 - July 2025

HNE Futures

- Built predictive models (Lasso, Ridge, XGBoost) to estimate EV energy consumption and battery range using web-scraped data and multiple domain-specific datasets, incorporating feature engineering and robust preprocessing pipelines.
- Developed an AI chatbot that leverages the curated EV dataset to respond to user-specific queries.
- Built a localization model to optimize EV charging station placement within districts in Egypt.

Data Analysis Intern

June 2024 - August 2024

School of Libraries and Learning Technologies, The American University in Cairo

- Collaborated on a project analyzing bibliographic records to identify items available in electronic formats via open providers like HathiTrust.
- Conducted overlap analysis between library catalog holdings and external databases using MARC format and MARC-8 encoding.
- Worked with unique identifiers such as ISBN, LCCN, and OCLC numbers to improve the library's consolidation and resource planning.

Technical Support

July 2023 - August 2023

Mountain View Developments

- Provided comprehensive technical support, offering troubleshooting expertise and resolving user queries promptly and effectively.
- Communicated directly with our users to provide quality service.

OPEN SOURCE PROJECTS

OmniCall — Match Detection Push Notifier for Gamers, [GitHub Repo for OmniCall](#)

November 2025

Desktop Screen Monitoring + PWA Notifications

Open Source

- Built a desktop tool that monitors the PC screen using template matching to detect the in-game “match found / accept” window and triggers a mobile notification.
- Designed a serverless backend using **Firebase Cloud Functions** to relay events to a **Progressive Web App (PWA)** hosted on **GitHub Pages**, eliminating the need for a native mobile app and the need to use the app store or the playstore.
- Implemented anonymous device pairing and real-time community metrics; live usage stats available at [OmniCall Dashboard](#).

ACADEMIC PROJECTS

- Air Temperature Forecasting Model**, [Air Temperature Forecasting Model](#) February 2024 - May 2024
Outdoor Air Temperature Prediction *Group Class Project*
- Developed a machine learning model to predict outdoor air temperature using over 8.39 million data points from the **Climate Weather Surface of Brazil**. The model incorporates advanced pre-processing, several machine learning algorithms including Boosted Decision Trees and Neural Networks, showcasing deep insights into meteorological data handling and predictive modeling.
 - Deployed the model for end-user interaction through Streamlit, making the prediction tool accessible for real-time use. Users can access and utilize the model at [Temperature Predictor](#).
- Linux based bandwidth Network Monitor and Controller**, [Network Monitor](#) February 2024 - May 2024
Linux-Based Network Monitoring and controlling Tool *Group Class Project*
- Implemented a comprehensive Linux-based network monitoring tool from scratch, featuring live data representation, historical data recording, and bandwidth throttling.
 - Developed a graphical user interface (GUI) using the **Tauri** toolkit and **ReactJS** framework in **Rust** programming language for real-time monitoring and easy analysis of network data in addition to a command line interface (CLI).
- Processor**, [Processor](#) September 2023 - December 2023
A RISC-V ISA Processor *Group Class Project*
- Engineered and brought to life a high-performance processor adhering to the RISC-V ISA standards, meticulously designed on the **Nexys A7** platform utilizing the power of **Verilog HDL**.
- RISC-V Simulator** , [RISC-V simulator](#) February 2023 - May 2023
RV32I ISA implementation *Group Class Project*
- Implemented a robust RISC-V simulator supporting the RV32I Base Instruction Set using **C++**, demonstrating proficiency in both RISC-V architecture and advanced **C++** programming.
- Calculator**, [Calculator](#) September 2022 - December 2022
Digital Calculator *Group Class Project*
- Engineered and actualized a sophisticated calculator application on the **FPGA Basys-3** board, employing **Verilog HDL** to demonstrate advanced hardware design proficiency.
- File Compressor** , [File-Compressor](#) February 2022 - May 2022
Huffman file compressor *Group Class Project*
- Developed and deployed a file compression program utilizing the Huffman coding technique, effectively reducing file sizes with precision and enhancing data storage efficiency.

EXTRACURRICULAR ACTIVITIES

- **Head**, HR Committee, CSEA, AUC September 2023 - Present
- **Member**, Logistics Committee, 3al Raseef, AUC September 2022 - January 2023
- **Student Ambassador**, HR Committee, American University Scouting Team February 2021 - May 2021