

AMR ABDELBAKY

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EDUCATION

The American University in Cairo (AUC) Egypt	May 2025
<i>Bachelor of Science in Computer Science With Specialization in Artificial Intelligence</i>	GPA: 3.73
<i>Minor in Mathematics</i>	Graduated
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 <i>PwC</i>	July 2025 - Present
• 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 <i>HNE Futures</i>	Feb 2025 - July 2025
• 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 <i>School of Libraries and Learning Technologies, The American University in Cairo</i>	June 2024 - August 2024
• 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 <i>Mountain View Developments</i>	July 2023 - August 2023
• 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	<i>Open Source</i>
• 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	<i>Group Class Project</i>
<ul style="list-style-type: none">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	<i>Group Class Project</i>
<ul style="list-style-type: none">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	<i>Group Class Project</i>
<ul style="list-style-type: none">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	<i>Group Class Project</i>
<ul style="list-style-type: none">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	<i>Group Class Project</i>
<ul style="list-style-type: none">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	<i>Group Class Project</i>
<ul style="list-style-type: none">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	Febrary 2021 - May 2021