Abdelrahman H. Elsofany

Artificial Intelligence Engineer

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Professional summary

Motivated Informatics and Computer Science graduate with a strong academic record and a passion for technology, artificial intelligence, and innovation. Recognized for exceptional problem-solving skills, rapid adaptability, and a commitment to delivering impactful results. Eager to gain hands-on experience while developing advanced analytical and innovative thinking abilities. Committed to contributing meaningfully to technological solutions and establishing a solid foundation for a successful career in the tech industry.

Education

Fresh Graduate: AI, 06/2026

The British University in Cairo (BUE) - El Shorouk

relevant course work:

- Machine Learning , Data Science , Data Structures , Analysis of Algorithms , Software Engineering , Database Systems , Python Programming , C++ Programming , Object-Oriented Programming (OOP) , Web Design , Human-Computer Interaction , Embedded Systems , Artificial Intelligence , Deep Learning , Neural Networks , Image Processing , Data Mining , Probability and Statistics , Operating Systems , Computer Networks, mobile application using flutter , Advanced database.

Professional Experience

Research Assistant

The British University in Egypt (BUE)

• Co-authored and published five peer-reviewed research papers presented at international conferences and journals

• Organized research materials, maintaining a well-ordered workspace conducive to productivity.

• Participated actively in regular meetings with fellow researchers to discuss project updates, challenges faced, and lessons learned during ongoing activities.

• Monitored project timelines, ensuring timely completion of tasks while maintaining high-quality output.

• Conducted literature reviews to support hypothesis development and identify gaps in existing knowledge.

• Contributed to the publication of research articles in peer-reviewed journals, showcasing expertise in various topics.

Flutter Development Training

ICT Training Program | Cairo, Egypt | 1 – 30 July 2025 (60 hours)

• Completed an intensive 60-hour Flutter development training program, earning a grade of Excellent and an official certificate.

Introduction to Machine Learning Training

AITB Course Center | Cairo, Egypt | 02 – 29 August 2023

• Completed a foundational machine learning training program covering core ML concepts and practical applications.

HP LIFE Online Courses

HP LIFE | Online | 2025

• Completed HP LIFE courses in Artificial Intelligence (presented 1/27/2025), Success Mindset (presented 2/3/2025), and Data Science & Analytics (presented 6/21/2025).

Accomplishments

1. Abd Elrahman H. El-Sofany, Belgacem Bouallegue, Hosam El-Sofany. "*Artificial Intelligence-Powered Insulin Recommendation System for Effective Diabetes Management*". Informatica Journal (ISI-JCR Indexed). Web of Science, If (3.429). July 2026. [**Accepted]**.

2. Hosam F. El-Sofany, Samir A. El-Seoud, Abd Elrahman H. El-Sofany, “Using Machine Learning Classification Algorithms and an Explainable AI Technique to Predict Student Learning Outcomes”, presented at the 28th International Conference on Interactive Collaborative Learning (ICL2025) and the 53rd IGIP International Conference on Engineering Pedagogy, Budapest, Hungary, October 2025.

3. Abd Elrahman H. El-Sofany, Hosam F. El-Sofany, Samir A. El-Seoud, “Prediction and Follow-Up of Diabetes Using Machine Learning Through a Mobile App”, presented at the International Conference on Computer & Applications (ICCA 2023), IEEE-Egypt, The British University in Egypt, Cairo, November 2023.

4. Hosam El-Sofany, Abd Elrahman H. El-Sofany, Abdelmoty M. Ahmed, Shanawaz Ahmed J., Belgacem Bouallegue (2025). "A Machine Learning-Based Approach for Predicting Alzheimer's Diseases Using Data Classification and Explainable Artificial Intelligence Techniques". Informatica, S. Raudys, Q1, Vol.36, Issue.10, Part.1, Oct 2025, PP.2-25. DOI: https://doi.org/10.61586/CyWjG.

5. Hosam El-Sofany, Abd Elrahman H. El-Sofany, Belgacem Bouallegue, Abdelmoty M. Ahmed, Islam A.T.F. Taj-Eddin (2025). "Enhanced Deep Learning and IoT-Based Approach for Heart Diseases Prediction Using Feature Selection Methods and Explainable AI Technique". Informatica, S. Raudys, Q1, Vol.36, Issue.9, Part.1, Sep 2025, PP. 2-32. DOI: https://doi.org/10.61586/YtTX.

Projects

DiaDose — *AI-Powered Smart Insulin Dosing & Nutrition Assistant — Graduation Project*

• Built a dual-mode food analysis pipeline (image and text) using a two-stage transfer-learning strategy on an EfficientNetV2-S backbone, reaching 86.63% Top-1 / 97.43% Top-5 accuracy on Food-101 and low-error nutrient regression on Nutrition5K (MAE: 5.18g carbs, 60 kcal, 4.22g fat, 5.30g protein).

• Designed a seven-layer clinical insulin-dosing engine aligned with ADA 2024, ISPAD 2019–2024, WHO, and NICE guidelines, covering ICR/ISF calculation, HbA1c calibration, circadian dawn-phenomenon correction, glycaemic-index modulation, and BMI-tiered adjustment for Type 2 patients.

• Developed a 24-hour glucose forecasting module combining a BiLSTM, a CNN-LSTM with attention, and a Transformer in a weighted ensemble, achieving an R^2 of 0.9859, with SHAP-based explainability for every forecast.

• Delivered a full-stack FastAPI + SQLite web application exposing 18+ REST endpoints, with JWT/bcrypt authentication and a real-time patient dashboard for glucose, hydration, and wellness tracking.

- **Publication:**

Abd Elrahman H. El-Sofany, Belgacem Bouallegue, Hosam El-Sofany. "*Artificial Intelligence-Powered Insulin Recommendation System for Effective Diabetes Management*". Informatica Journal (ISI-JCR Indexed). Web of Science, If (3.429). July 2026. [**Accepted]**.

SecureVault — *Zero-Trust Encrypted File Storage Platform — Team Project (DevOps Lead)*

• Co-developed a Zero-Trust file storage web app with a React/Vite frontend, Node.js/Express backend, and MongoDB, built security-by-design across every layer of file handling.

• Owned DevOps and infrastructure: containerized the full stack with Docker Compose and configured an Nginx reverse proxy enforcing Content-Security-Policy, XSS, and clickjacking protections.

Healix — *AI-Powered Healthcare Platform — Personal Project*

• Built a full-stack healthcare platform with React.js, FastAPI, and Docker, implementing JWT authentication and role-based access control for patients and healthcare professionals.

• Designed RESTful APIs for patient management, appointments, and electronic medical records, integrating AI models for disease prediction, symptom analysis, and medical image analysis into production endpoints.

Skills

- Analytical thinking
- Collaborative teamwork
- Data collection
- Excellent communication skills
- Passionate about learning
- Literature review
- Effective troubleshooting skills
- Proficient in managing multiple tasks
- Research reporting
- Proven ability to learn quickly
- Data analysis

LANGUAGES

Arabic: Mother language

English: B1 (Intermediate)

Additional Information

What'sApp number : 01008439514

linkedin profile:https://www.linkedin.com/in/abdelrahman-hossam-b2083534a/

Military Status: Final Exemption from Military Service