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Professional Summary

I am a highly motivated and ambitious computer science student with a strong foundation in programming, problem solving, and software development, eager to contribute effectively in professional environments and take on challenging technology-driven opportunities.

Education

Al Alamein International University (AIU), Egypt
Bachelor in Computer Science, Major: AI Science
CGPA: 3.865/4.0

EXPECTED GRADUATION: 2027

Technical Skills

- **Programming Languages:** Python, Java, C++, R, JavaScript
 - **Web Development:** HTML5, CSS3, R Shiny
 - **Data & Databases:** MySQL, Data Preprocessing, Association Rules
 - **Networking & Simulation:** Cisco Packet Tracer
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Technical Tools

- **Tools & Platforms:** Visual Studio Code, Git, GitHub
 - **AI & ML Frameworks:** TensorFlow, scikit-learn, OpenCV
 - **Other Skills:** Computer Vision, Machine Learning model development, API integration, basic Linux usage
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Languages

- **Arabic:** Native
- **English:** Professional Working Proficiency
- **German:** Basic Knowledge

Projects

- [Medical Diagnosis Expert System \(2026\)](#) — Developed an advanced AI-powered medical triage expert system using forward-chaining inference with certainty factors. The system analyzes symptoms, vitals, and medical history to provide explainable diagnosis paths and triage prioritization. Implemented using Python (Tkinter GUI) and Next.js with a modern web interface.
- [CS224N GPT-2 Multi-Task NLP System \(2026\)](#) — Extended a GPT-2 transformer model for multiple NLP tasks including sentiment classification, paraphrase detection, and sonnet generation. Improved classifier architecture with normalization, GELU activation, and dropout. Achieved comparable performance to Hugging Face GPT-2 backend with stable training and reproducible outputs.
- [Cairo Smart Optimization Transportation System \(2026\)](#) — AI-powered smart transportation system designed to optimize urban mobility in Cairo. Uses intelligent algorithms and data-driven route optimization to reduce traffic congestion, improve travel efficiency, and support smart city transportation planning.
- [AURA Classroom Assistant \(2026\)](#) — Developed a smart classroom system using computer vision, speech recognition, and NLP. The system automates attendance, analyzes student engagement and emotions via facial recognition, and classifies spoken questions into academic topics for enhanced learning interaction.
- [Field Training Management System \(2025\)](#) — Built a database system to manage student internship (Field Training 2), tracking registrations, organizations, mentorship, evaluations, and reports.
- [Image Enhancement Web App \(2025\)](#) — Implemented four enhancement techniques to improve low-resolution images through a web interface.
- [Data Center Network Design – Cisco Packet Tracer \(2025\)](#) — Designed and simulated a scalable data center network with routers, switches, VLANs, and routing protocols ensuring reliability and fault tolerance.
- [Data Mining & Knowledge Discovery Project \(2025\)](#) — Extracted association rules and applied Principal Component Analysis (PCA) to reduce dimensionality, improve efficiency, and enhance data visualization.

- **[Kidney Failure Prediction Model \(2025\)](#)** — Built a machine learning classification model to predict kidney failure using medical datasets with data preprocessing, feature selection, and performance evaluation.
- **[University Cafeteria Management System \(2025\)](#)** — Developed a system during ITI training to manage cafeteria operations, including menu management, orders, payments, and basic reporting for a university environment.
- **[Smart Solar-Powered Bank Station \(2025\)](#)** — Designed a complete software and system architecture for a smart solar-powered bank station, including power management logic, monitoring workflows, and user interaction design.
- **[Pneumonia-Detection-Using-CNN \(2025\)](#)** — Pneumonia is a lung infection that can be dangerous if not detected early. Chest X-ray images are commonly used for diagnosis, but manual examination can be slow and depends on medical expertise. Convolutional Neural Networks (CNNs) are well suited for this task because they can automatically learn important visual features from images.
- **[Hospital Management System \(2024\)](#)** — Java-based hospital system for training and structured OOP assignments.
- **[Transportation System \(2024\)](#)** — Designed using Java with strong OOP practices.
- **Customer Churn Prediction (2025)** — Applied ML techniques to predict telecom customer churn using classification algorithms.
- **Healthcare Diagnosis Model (2025)** — Built AI model for predicting medical conditions based on data and images.
- **Clock Project (2025)** — Designed a fully functional 12-hour clock using 8051 chips, without microcontrollers or Arduino.
- **Fuel Cell Research (2024)** — Investigated fuel cell technology and its practical applications.
- **Treasure Hunt Game with A* Search (2024)** — Developed an AI pathfinding game using A* algorithm in Python.
- **RSA Encryption Research (2024)** — Conducted research on encryption and decryption using RSA.

Internships and Training

- Code Alpha (Machine Learning Intern, Data Science) - 2025
- CIB Bank (Digital Transformation & Data Literacy) - Summer 2024

- ITI – Yellow Belt Program (2025)
 - **University of Virginia Training Program (2025)** — Worked on improving the SharkPulse web platform by optimizing latency and enhancing system performance. Contributed to backend and frontend improvements, resulting in faster response time and better user experience.
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Certifications

- **ITI – Yellow Belt Training Program** (Information Technology Institute, ITI)
 - **Neural Networks and Deep Learning** – Coursera (DeepLearning.AI)
 - **Engineering Practices for Building Quality Software** – Coursera
 - **HTML and CSS Web Developers** – Coursera (Johns Hopkins University) – July 2024
 - **Machine Learning for AI** – Coursera (University of London) – July 2024
 - **Inferential Statistics** – Coursera (Duke University) – October 2024
 - **Introduction to Probability and Data with R** – Coursera (Duke University) – May 2024
 - **Ordered Data Structures** – Coursera (University of Illinois) – November 2024
 - **Introduction to Agile Development and Scrum** – Coursera (IBM) – May 2024
 - **Introduction to OOP with Java** – Coursera (LearnQuest) – April 2024
 - **Mastering Object-Oriented Programming using C++**
 - **Relational Database Systems**
 - **Fundamentals of Digital Design and Video Processing**
 - **Digital Systems: From Logic Gates to Processors**
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Competitions

- **ECPC** (Egyptian Collegiate Programming Contest) – Summer 2024
- **Next City AI Hackathon** – Alamein International University – 1st Place Winner (2026)