

Nada Amr Attia Abd El Hamed

Email : kokohend81@gmail.com
Address : 12 Mazhar Ashour Street, El Nozha, Cairo, Egypt
Phone : 01062112449
LinkedIn : <https://www.linkedin.com/in/Nada-Amr>



PROFILE

A Computer Engineering and Software Systems student at the Faculty of Engineering in Ain Shams University (ICHEP) in Egypt, concurrently enrolled at the University of East London, England. My academic excellence, coupled with extensive hands-on experience, has equipped me with a strong foundation in various programming languages such as Java, Python, C++, Flutter, MySQL, and Firebase, making me proficient in a wide range of technical domains. Possess strong leadership, communication skills and Presentation Skills, excellent in project management. I am interested in Software Engineering, Data Science, AI (Classical and Generative), and Project Management.

VOLUNTEERING

Ain Shams University | Cairo, Egypt

Sep 2021 – Present

Member in the volunteered team, [Certificate link:](#)

- This team's role is helping in organizing and attending all the events in the uni. For Example, one of these team roles is welcoming the new students of the UNI every year and helping them to know all the information that they will need during their study.
- The Skills which I get from attending this team: Communication Skills, knowing and applying the main principles of working in a team, and developing the creativity and thinking freshly.
- Examples of the events which I take part in: EDUGate 2022 & 2023, NAQAAE Events, Orientation Day every year, Freshmen Admissions event every year, and etc....

Experience

Siemens Graduation Project

Aug 2023 – Present

Siemens & ASU

Cairo, Egypt

- Team member in Senior Group working on Framework to generate AI Agent implemented in python or SystemC giving the user the flexibility in defining the parameters based on the training model using proper dataset or based on application need.
- Gain deep understanding of deep learning, particularly CNN, SystemC, QT and Pytorch.
- The tool is user-friendly and cross platform compatible and easier to setup and share.
- The tool generates more complex DNN architectures.
- The CNN visual representation is by using TensorBoard that enabled comparisons between runs of the machine learning models
- The tool fetchs the latest updates of the layers in the nn module with their parameters names and types and automatically reflect them in the workflow depending on the pytorch version used.
- The project is hosted in GitHub and ready to be open sourced.
- Now we are working on :
 - Integrate the modules to make the software work in a smooth workflow.
 - Validate the output model of the tool and add checks for each added layer.
 - Integrate Carla Sim as testing environment for our created deep learning models.
 - Add Model Transfer Learning Feature.

Project Manager and Data Science Engineer Summer Intern

Aug 2023 – Oct 2023

IBM · Internship

Cairo, Egypt

- Project Manager for project Cleopatra
- Cleopatra project is a Tourism Project that will be delivered to Ministry of Tourism and Ministry of Communications and Information Technology

- Project Manager overseeing eight teams, each comprised of 45 individuals, and responsible for coordinating and managing this diverse workforce to ensure successful project execution.
- Also, I was part of AI Team, Learned all about Generative AI including prompting, RAG, GPT3.5, Google APIs, LangChain, prompt injection, and proactive chatting.

Lead of Google Chapter

Aug 2023 – Present

Google Developer Student Clubs-Ain Shams University for Engineering

Cairo, Egypt

- Lead of Google Developer Student Clubs-Ain Shams University for Engineering.
- Lead for full community overseeing six teams, each comprised of 75 individuals.
- Responsible for Managing community to deliver technical courses, events, and talks.

Publish Paper

“A Review of Multi-omics and Machine Learning: Advancements and Applications in Cancer Research”

Aug 2023 – Oct 2023

IEEE & ASU

Cairo, Egypt

- Published Paper: Presented at the 2023 International Mobile, Intelligent, and Ubiquitous Computing Conference (MIUCC).
- In this research paper, a comprehensive review explores the integration of multi-omics data analysis with machine learning techniques in cancer research. The study highlights the advantages of combining genomics, transcriptomics, proteomics, and metabolomics data for deeper insights into complex biological systems. Utilizing a multiomics dataset, the research experiment focuses on predicting breast cancer patient survival, comparing three machine learning methods—ensemble, DeepProg, and DCAP. The findings reveal that, while the ensemble method enhances DeepProg's prediction over DCAP in a multi-model setting, DCAP outperforms in a single model setting, achieving higher accuracy. The research emphasizes the effectiveness of Denoising Autoencoder for dimensionality reduction and raises considerations regarding the Gaussian mixture model's impact on clustering in DeepProg.
- Publication Details: Included in IEEE Xplore since October 20, 2023
- [Published Paper Link](#)

Data Summer Intern

July 2023 – July 2023

WE · Internship

Cairo, Egypt

- Learned all about Data Analytics, Starting with Power BI, Analytics Life Cycle and Prepare Data for Analysis, Model Data, Visualize Data and Data Analysis in Power Bi.
- Big Data Introduction, Industry and Technology Trend, HDFS - Hadoop Distributed File System, Hbase - Distributed NoSQL Database, MapReduce - Distributed Offline Batch Processing and Yarn Resource Negotiator.

Industry 4.0 Competition

Dec 2022 – Dec 2022

iHub

Cairo, Egypt

- Made full python application for a nonprofit charity to help them get benefit of new technologies in helping others, using agile method specially the scrum approach in our journey to finish this application.
- Achieved 4th place ranking overall in competition.
- [Certificate link](#)

Head of Project Management

Oct 2022 – July 2023

Google Developer Student Clubs-Ain Shams University for Engineering

Cairo, Egypt

- As a Project Manager in GDSC, I assumed a leadership role in guiding and coordinating teams to create innovative solutions and orchestrate impactful events.
- Provide project management sessions to PM members which aligned with the content of the Project Management diploma on Coursera, Moreover, I successfully managed and oversaw GDSC courses, ensuring the delivery of high-quality content and a seamless learning experience for participants.
- I worked as a PM Head for 40 members.
- I finished my Project Management Diploma from Google, [diploma certificates link](#).
- [Certificate link](#)

SAP Summer Intern**Sep 2022 – Oct 2022**

IBM · Internship

Cairo, Egypt

- Learned all about Developing Web Apps with SAPUI5 course, introducing the main concepts of the UI development toolkit for HTML5 - SAPUI5, going through the powerful development concepts to truly master SAPUI5!
- Learned all about the Evolved Web Apps with SAPUI5 course to learn how to create enterprise-grade Web apps using SAPUI5, the flexible and comprehensive UI framework from SAP.
- [Certificate link](#)

Data Center Summer Intern**July 2022 – Aug 2022**

NBE · Internship

Cairo, Egypt

- I acquired comprehensive knowledge and practical experience in various aspects of data center operations. This included server management, networking fundamentals, security protocols, and efficient troubleshooting techniques. I gained insights into the intricate workings of server configurations, load balancing, and disaster recovery procedures, as well as the importance of maintaining robust security measures to safeguard sensitive data.
- This experience at NBE has not only expanded my technical competencies but has also highlighted the critical role that data center engineering plays in supporting the modern digital infrastructure of organizations.
- [Certificate link](#)

AI & Machine Learning Summer Intern**July 2022 – Aug 2022**

IHUB · Internship

Cairo, Egypt

- This training program equips participants with a diverse skillset in artificial intelligence (AI) and machine learning, covering foundational concepts, advanced techniques, and practical application.
- I gained proficiency in deep learning principles, machine learning techniques including supervised, unsupervised, and reinforcement learning, as well as neural networks such as Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs) with Long Short-Term Memory (LSTM).
- The training includes hands-on projects, GPU programming, and exposure to generative models like Generative Adversarial Networks (GANs) and Deep Belief Networks (DBNs). This training provides participants with the ability to tackle real-world data-driven challenges, build predictive models, and stay at the forefront of AI and machine learning advancements.
- [Certificate link](#)

Finyology competition**Jan 2022 – Jan 2022**

CBE · Internship

Cairo, Egypt

- Achieved 2nd place ranking overall in competition.
- Designed an economical application that aims to improve the economics of the country by supporting women to have a place in the business field.

Android Development**July 2021 – Sep 2021**

iHub · Internship

Cairo, Egypt

- Learned all about essential skills in Java/Kotlin programming, Android app development using Android Studio, user interface (UI) design principles, debugging, and testing.
- Learning all about architectural principles such as the Model-View-Controller (MVC) pattern, fostering a structured approach to app design. Focusing on writing clean and maintainable code.
- [Certificate link](#)

Member in Development Department

Developer Student Clubs · Internship

July 2020 – Sep 2020

Cairo, Egypt

- Learning all about essential skills in programming fundamentals, object-oriented concepts, exception handling, utilizing the Java Standard Library, file I/O, multithreading, creating graphical user interfaces (GUIs), debugging, testing, and software development practices.
- [Certificate link](#)

Projects

Carpool Application

It is a rideshare application designed to facilitate rideshare service to customers. carpool can be used by students to share rides to or from AinShams campus. In this version of the application, we'll create a customized version for Faculty of Engineering Community at Ainshams University. Carpool is operated by students for students.

Technologies Used In these Applications: Flutter, Firebase and Sqlflite.

A Comprehensive Health Provider Website

This Software Project Management initiative for developing a software system, structured across four phases. Beginning with feasibility studies and financial analysis, it progresses through kickoff meetings, scope definition, and team contracts. The project timeline is outlined using Gantt charts and network diagrams, emphasizing optimization strategies for critical paths. The final phase includes cost estimation, risk management, lessons learned, and comprehensive documentation for successful software development.

Titanic Survival Prediction Project

This project employs the Titanic Dataset from Kaggle to develop and assess classifiers for predicting passenger survival. Divided into two phases, the first phase focuses on Support Vector Machines, K-Nearest Neighbors, and Bayes Classifier, optimizing hyperparameters and comparing performance metrics. The second phase introduces Decision Trees and Multi-Layer Perceptron classifiers, following a similar optimization and evaluation process. The goal is to provide a comprehensive analysis of these classifiers' effectiveness in predicting survival on the Titanic, considering factors like accuracy, precision, recall, F1-score, and ROC/AUC curves.

Optimized Framework for Movie Recommendation: An In-depth Analysis and Comparative Study Using Machine Learning and Deep Learning Algorithms

This research paper explores the implementation of Content-Based Filtering and Content Filtering methodologies in movie recommendation systems. Evaluating diverse algorithms, including SVD, AUTOENCODER, and hybrid recommenders, across three datasets, the study underscores the significance of considering dataset characteristics for optimal algorithm selection. The methodologies are not only investigated but also implemented, showcasing their performance in different contexts and highlighting the need for nuanced algorithm selection based on specific preferences and dataset features.

Ecommerce App

Engineered a dynamic Ecommerce food delivery App utilizing Flutter for a seamless user interface, Firebase for robust backend services, the Get package for efficient state management, and an MVC architecture. This project delivers an intuitive platform for users to browse, order, and track food deliveries, demonstrating expertise in cross-platform development, and real-time database integration.

The app's generic design allows easy adaptation for other ecommerce applications with minimal modifications to the data, showcasing a scalable and reusable codebase.

Study App

Created an engaging Study App with a quiz feature, employing Flutter for the user interface, Firebase for backend services, the Get package for state management, an MVC architecture, and JSON for data storage. The app provides a comprehensive platform for users to access educational content, take quizzes, and track their progress. Demonstrates proficiency in cross-platform development, real-time database integration, structured data handling, and user-friendly app design.

Distributed 2D car racing game with chatting feature

Designed and developed a dynamic 2D car racing game featuring a real-time chat feature, utilizing Flutter for the front-end, Firebase for backend services, the Provider package for state management, and an MVC architecture. This project leverages the principles of distributed computing, allowing players to race and communicate seamlessly across devices, highlighting skills in cross-platform development, cloud integration, and distributed systems.

A Review of Multi-omics and Machine Learning: Advancements and Applications in Cancer Research

Authored a comprehensive review on the synergistic potential of Multi-omics and Machine Learning in the field of Cancer Research, with a focus on Bioinformatics. Explored cutting-edge advancements, innovative methodologies, and real-world applications, highlighting the transformative impact of integrating omics data and machine learning techniques in unraveling complex cancer biology.

The Street View House Numbers (SVHN) Recognition using Traditional Computer Vision Techniques

Implemented Street View House Numbers (SVHN) Recognition using traditional computer vision techniques, utilizing Python and OpenCV. Successfully applied advanced vision algorithms to detect and recognize house numbers, showcasing proficiency in computer vision and image processing for real-world applications.

Power Window Control system using Tiva C running FreeRtos

Designed a sophisticated Power Window Control system using the Tiva C microcontroller, seamlessly integrating FreeRTOS for multitasking. Expertly employed semaphores, mutex, and systic mechanisms, demonstrating strong proficiency in C and advanced embedded programming techniques.

Homeless Shelter App

Led an Agile team in developing a Python-based Homeless Shelter App, utilizing MySQL and MVC architecture. Achieved significant UI enhancements, and iterative updates, demonstrating strong project management while addressing a crucial social challenge.

Parkinson's Disease Prediction using voice signals by data mining techniques.

Executed a Parkinson's Disease Prediction model using voice data through comprehensive data mining phases in Python. This encompassed data preprocessing, feature selection, model building, and performance evaluation. Employed powerful classification techniques, including Decision Trees, Support Vector Machines (SVM), and K-Nearest Neighbors (KNN), showcasing expertise in machine learning for medical applications.

Embedded TivaC Calculator, Timer and Stopwatch module

Demonstrated my proficiency in embedded systems programming by designing and implementing an advanced calculator on the TivaC board, leveraging my expertise in interrupts and timers to enable timer and stopwatch functionality.

Proxy Server Implementation

Designed a sophisticated Power Window Control system using the Tiva C microcontroller, seamlessly integrating FreeRTOS for multitasking. Expertly employed semaphores, mutex, and systic mechanisms, demonstrating strong proficiency in C and advanced embedded programming techniques.

Searching Algorithm Visualizer

Developed an AI project, a Searching Algorithm Visualizer, using Python. This desktop application empowers users to select between informed (heuristic-based) and uniformed search algorithms. The project allows dynamic visualization of various search methods, providing an interactive learning experience. Demonstrates a strong understanding of search algorithms, Python programming, and user-friendly application design.

Tiny Language Compiler

Developed a versatile Tiny Language Compiler in Python, with a specialization in compiler design. Designed a flexible codebase that's adaptable for various programming languages, showcasing strong skills in both language parsing and compiler architecture.

Sorting Algorithms Grapher

The project's aim is to compare different sorting algorithms with respect to time complexity by graphing input size against the number of operations.

The user can sort any input with a chosen sorting algorithm from heap, counting, bubble, insertion, selection, merge, and radix sorts. (All Sorting Algorithms are implemented manually)

Modifying Minix OS

In this project. my role was modifying the file system to use extent-based allocation instead of block-by-block allocation, comparing different extent sizes to find the optimal size with minimal external fragmentation and coordinating tasks between my teammates.

Banking System

Engineered a high-performance Banking System in Java, meticulously applying comprehensive testing techniques and lifecycle phases, including unit testing, integration testing, system testing, user acceptance testing, and performance testing. Leveraged automated testing tools to optimize efficiency, showcasing advanced skills in software development and quality assurance.

Restaurant Management System

Developed a comprehensive Restaurant Management System with a strong foundation in SQL and database management. Created a reliable and efficient system to handle restaurant operations, from menu management to customer orders and inventory tracking.

Gym Management App

Developed a Gym Management App in Java, leveraging advanced programming techniques and mySQL as part of an intensive course, highlighting strong skills in Java and database management.

ADDITIONAL SKILLS

Languages:

- Arabic (Native or bilingual proficiency)
- English (Full professional proficiency)
- German (Elementary proficiency)

Microsoft Office: Proficient in Word and PowerPoint

Skills: Proficient in designing and video editing