

Mahmoud Essam Fathy | Data Science

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SUMMARY

I am Mahmoud Essam, a dedicated student at Alexandria University's Faculty of Computer and Data Science, specializing in Data Science. My academic journey is driven by a passion for harnessing the potential of data to solve complex problems and make informed, data-driven decisions. Throughout this journey have achieved a CGPA of 3.78, with a lot of programming skills, impressive data analysis skills, and machine learning.

EXPERIENCE

Embedded System Intern | Alexandria University | Egypt, Alexandria | July 2023 - September 2023

- I've built up a lot of ESP Applications for the detection of fire, light, flooding, and connection smart systems.
- Learnt the base of cloud structure and its work as an access point between mobile apps and microcontroller.
- Performed flutter application to use as a key for applying works with ESP.
- Lastly, developed a simple Smart Home System by combining ESP32 with the Flutter app and using Firebase as an access point for the home, and achieved the target really well.

PROJECTS

Breast Cancer | <https://github.com/MahmoudEssam707/portfolio-projects/tree/main/Data-Science/Breast%20cancer%20prediction>

- Utilized technical skills in model evaluation to identify that the SVM additional to ANN models surpassed other models, achieving an impressive testing accuracy of approximately for traditional way as SVM 95%- for ANN 96% in the domain of breast cancer prediction.
- Chose all acceptable ways to reduce attributes as much possible "Applying Dimensionality Reduction".
- This project uses the following machine learning models for classification (Logistic Regression, Support Vector Machine (SVM), Decision Tree, and Random Forest Classifier, Artificial neural network).

League of legends |

[https://github.com/MahmoudEssam707/portfolio-projects/tree/main/Data-Science/League%20of%20legands%20\(Who's%20winner\)](https://github.com/MahmoudEssam707/portfolio-projects/tree/main/Data-Science/League%20of%20legands%20(Who's%20winner))

- **Objective:** Develop machine learning models (Decision Tree and Random Forest classifiers) for predicting League of Legends ranked game outcomes based on in-game features.
- **Data:** Utilised a dataset of 50,000+ EUW ranked games, including game duration, season ID, and details about key events, for example first blood and tower.
- **Model Building:** Achieved 96% accuracy with the Decision Tree classifier and 97% with the Random Forest classifier, optimising hyperparameters for both models.
- **Usage and Results:** Users can input game details into the Streamlit app to obtain winning team predictions with estimated probabilities, aiding insights into League of Legends game outcomes.

Anime Prediciton System | <https://github.com/MahmoudEssam707/portfolio-projects/tree/main/Data-Science/Anime%20Predictor>

- Anime project that uses collaborative filtering to recommend anime to users based on their viewing history and ratings.
- Discover the most common anime genres using a word cloud visualization.
- The recommendation system uses collaborative filtering with Nearest Neighbors and cosine similarity to recommend anime titles to users based on their preferences.

Linear Model as Simple and Multiple With R | <https://github.com/MahmoudEssam707/Projects/tree/main/Self%20Projects/Regression>

- Comprehensive summary statistics provide a detailed understanding of the dataset.
- Regression existence testing determines the suitability of applying regression analysis.
- Confidence intervals for each beta coefficient add statistical Rig to the analysis.
- The use of Partial F-Test aids in dimensionality reduction by testing the necessity of each independent variable.
- Utilized R programming language to create visually appealing and informative plots.

CERTIFICATIONS

Machine Learning Specialization | AndrewNG (online)

Intro to Deep Learning | Kaggle (online)

Data Science Track | IBM (online)

Database Fundamentals | ITI

Data Analytics Professional | Google (online) | 2022

Data Analysis Challenger Track | Ministry of communications and information technology (online) | 2022

EDUCATION

BACHELOR'S DEGREE | University of Alexandria | Minor in Data Science Skills with other skills like embedded systems | Egypt, Alexandria | 2025 | 3.7848

SKILLS

Languages: SQL, Shell, R, Python, Java, C++, NoSQL MongoDB

Soft Skills: Team Leading, Time Management, Communication Skills, Problem-solving, Instruction

Technical Skills: SSIS, Rdbms, ETL, Operating Systems, Cloud Services

Mathematical Skills: statistics, probability, calculus, linear algebra, regression