Aya Selim

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# Education

## Arab Academy for Science and Technology Class of 2023

**Academic Postgraduate Diploma (Conversion Master)** **in** **Computer Science** [[transcript](https://github.com/aya9aladdin/image/assets/27581535/c4e3ffe2-6a0b-4f48-9541-83c058efb888)]. **GPA**: 3.79/4.00 **Related coursework:** OOP. System Programming. Database management systems. Artificial intelligence. Data Structures and Algorithms. Computer Network. Discrete Math. Operating Systems.

## Ain Shams University Class of 2022

**BSc. in Pharmaceutical Sciences. GPA**: 3.85/4.00

# Experience

**Google Summer of Code (GSoC) MdAnalysis Organization | Project Internship** [[ Report]](https://www.mdanalysis.org/2022/12/09/Aya-gsoc-final-report/) **June 2022 – Oct 2022**

* Built a novel guesser API system that enhanced the accuracy of molecular attribute predictions for diverse topology systems.
* Wrote **+2500** lines of code for building the system.
* Working on building guesser classes for PDB and Martini data topologies.

# Projects

**Egyptian Used Cars Price Prediction:** *(Data pipelines – web scraping – Airflow – SQL – AWS – Spark - Neural Networks - RESTful API)* [ [GitHub](https://github.com/aya9aladdin/used-cars-price-prediction/tree/main)] [[Demo]](https://www.youtube.com/watch?v=xCKlSArHJvQ&ab_channel=AyaAlaa)

* Implemented a comprehensive data workflow to scrape, transfer, store and process scraped used cars data daily.
* Trained a neural network model on the data coming from the pipeline and achieved **92% accuracy** in predicting prices.
* Built a dashboard to deploy the model and expose it through an API to the user.

**Tech Job Prediction & Skills Recommendation Platform:** *(Sklearn – Clustering – TensorFlow - MlFlow)* [ [GitHub]](https://github.com/aya9aladdin/Tech-Job-profile-prediction-dsProject) [[Demo]](https://www.youtube.com/watch?v=up6f-HBg1H0&ab_channel=AyaAlaa)

* Worked on end-to-end data science processes from cleaning, analytics, features engineering, and training the model.
* Trained the data on the xgboost classification model and achieved an average of **83% recall score** on predicting job category.
* constructed a dashboard to deploy the model and expose it through an API to the user.

**Chicago Crashes Data Project:** *(ELT* *pipeline – Workflow Orchestration – SQL – Cloud services – Docker)* [[ GitHub]](https://github.com/aya9aladdin/chicago-crashes-DEproject)

* Developed an end-to-end data pipeline for extracting crash data of Chicago city daily.
* Extracted valuable insights and created visualizations using Looker.

**General Purpose ChatBot:** *(nltk – Natural language processing(NLP))* [[ GitHub]](https://github.com/aya9aladdin/cs50AI/tree/main/questions)

* Constructed the main functional part of a simple general-purpose chatbot.
* Developed bot logic using TF-IDF methodology, analyzing corpus files to identify key terms.

**AI Minesweeper:** *(Inference rules)* [[ GitHub]](https://github.com/aya9aladdin/cs50AI/tree/main/minesweeper) [[Demo]](https://www.youtube.com/watch?v=db3FdfzrWYc&ab_channel=AyaAlaa)

* Created an AI agent that can identify safe squares and uncover all mines by applying propositional logic rules.

**Tic-Tac-Toe AI Agent :** *(MiniMax algorithm)* [[ GitHub]](https://github.com/aya9aladdin/cs50AI/tree/main/tictactoe) [[Demo]](https://www.youtube.com/watch?v=I9gs5zOkHHI&ab_channel=AyaAlaa)

* Implemented an AI agent that can play Tic-Tac-Toe and win using a propositional MiniMax algorithm.

# Skills

**Languages, Software & Frameworks:** Python, Java, C, C++, SQL, Spark, Docker, AWS, DBT, Airflow.

**Spoken Languages:** Arabic (Native), English (Full Professional Proficiency, 7.5 on academic IELTS).

# Extracurricular & Leadership Activities

**ECPC Qualifications Collegiate Programming Contest. Aug 2022**

**Maker Diploma – San3a Academy** [**[Project journal]**](https://sites.google.com/san3atech.com/aya-alaa/home)**. July 2021 – Oct 2021**

**Egypt Scholars Inc. Lab in Scientific Research Advanced Level. Feb 2020 – May 2020**

**iHub Innovation Camp (iCamp). July 2019**

# Awards & Achievements

**Astrafekra National Competition** *(Finalist)* **Sept 2019**

* National competition for medical students about innovative technological ideas in the healthcare sector.