# Youssef Agiza

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## EDUCATION

- **The American University in Cairo (AUC)** — Cairo, Egypt

  *Bachelor of Science, Computer Science; GPA: 3.945/4.0* — *September 2019 - Expected to graduate by 2023*

  **Courses:** *Operating Systems, Data Structures, Analysis Of Algorithms, Machine Learning, Software Engineering, Computer Architecture*

- **El Salam School** — Al Qalyoubia, Egypt

  *Thanaweya Amma* — *September 2005 - July 2019*

## SKILLS SUMMARY

- **Programming Languages:** C/C++, Python, JavaScript, SQL, HTML/CSS, Verilog, RISC-V
- **Frameworks/Libraries:** NodeJS, Express, ReactJs, Bootstrap,REST, React Native, Expo, STL, SFML
- **Tools/Skills:** GIT, Docker, PostgreSQL, Design patterns, MySQL, Makefile, Microsoft Office

## PROJECTS

- **Medical Health Record Systems using Scrum methodology(In Progress):** (MySQL, Node js, Flutter)
  - Applied Scrum methodology to organize and build the project.
  - Collaborated with team members to divide the responsibilities.
  - Build the back-end using NodeJs and designed the SQL database.

- **Product reviews sentiment analysis using machine learning model(In Progress):** (Python)
  - Performed literature review to compare and evaluate the available datasets.
  - Performed pilot study to compare and analyze the results of different learning models and choose the best out of them.
  - Implemented Neural Network model from scratch and trained in on the dataset.

- **RISC-V processor simulator applying Tomasulo's algorithm:** (C++)
  - Structured the application to be modular and maintainable.
  - Implemented and revised the core functionalities.
  - Divided tasks and assigned them to other developers to implement.

- **RISC-V pipelined processor:** (Verilog)
  - Collaborated on implementing and pipelining the processor.
  - Tested and debugged the processor comprehensively both in simulation and on physical chip.

- **Automated academic web advisor:** (ReactJs, NodeJs, Express, MySql, Python)
  - Researched other automated academic advising and synthesized the information to design the project.
  - Self-learned web development (frontend/backend) and the design of SQL databases.
  - Programmed a web-crawler in python to populate the database with the needed data.
  - Designed the database, built the backend using RESTful api's, and implemented the frontend.
  - Deployed the website in the computer department in my university to serve real-life students and monitored their feedback.

- **Set-associative cache simulator:** (C++)
  - Employed LRU, LFU, and random replacement policies for the cache simulator.
  - Coordinated the project OOP structure with other team members.

- **Pacman game:** (C++, SFML, OOP, design patterns)
  - Drafted an Object-Oriented design for the game using UML in collaboration with other team members.
  - Searched into the original Pacman game to construct similar algorithms for the characters' behavior.
  - Improved the game using polymorphism and design patterns such as Singleton and Observer.
  - Implemented graph data structure and applied Dijkstra's shortest path algorithm.

## Extracurricular Activities

- **Leadership Course(Certified)** — AUC, Cairo, Egypt — *Feb 2020 - Present*
  *Attended equivalent of 30 hours of class time about leadership.*
  *Practiced and discussed different leadership styles.*

- **Cloud Computing, Mentor, Google Development Student Club(GDSC)** — Cairo, Egypt — *Feb 2022 - Present*
  *Prepared and held mentoring session(s) in cloud computing in google summer jam*

- **Student Union Mobile Application, General Manager, Student Union** — AUC, Cairo, Egypt — *Feb 2020 - Present*
  *Maintained a mobile application used by over 6000 users. Lead and*
  *trained members to contribute to collaborate and contribute to the application*

- **Cyber Security, Member, Github Community** — AUC, Cairo, Egypt — *Feb 2022 - Present*
  *Learned the basics of ethical hacking*

- **Block Chain, Member, Github Community** — Cairo, Egypt — *Feb 2022 - Present*
  *Learned the basics of block chain and it usages*

- **Competitive Programming Winter Camp** — Cairo, Egypt — *Jan 2022 - Feb 2022*
  *Practiced different competitive programming skills on different online judges*

- **Marketing Committee, Member, Developers Club** — AUC, Cairo, Egypt — *September 2020- May 2021*
  *Digitally marketed for the clubs using social media platforms*

# Reference Furnished Upon Request