

# Youssef Agiza

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## EDUCATION

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- **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*

## PROJECTS

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- **Medical Health Record Systems using Scrum methodology:** (MySQL, Node js, Flutter)
  - Applied Scrum methodology to organize and build the project.
  - Collaborated with team members to divide the responsibilities.
  - Designed the back-end using NodeJs with Model-View-Controller structure.
- **Product reviews sentiment analysis using Neural Network:** (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 with an Adam Optimizer and trained it on Arabic dataset.
  - Implemented online learning for the model to learn better from the user's feedback.
- **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

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- **Cloud Computing, Mentor, Google Development Student Club(GDSC)** Cairo, Egypt  
*Prepared and held mentoring session(s) in cloud computing in google summer jam* Feb 2022 - Present
- **Student Union Mobile Application, General Manager, Student Union** AUC, Cairo, Egypt  
*Maintained a mobile application used by over 6000 users. Lead and trained members to contribute to collaborate and contribute to the application* Feb 2020 - Present
- **Cyber Security, Member, Github Community** AUC, Cairo, Egypt  
*Learned the basics of ethical hacking* Feb 2022 - Present
- **Block Chain, Member, Github Community** Cairo, Egypt  
*Learned the basics of block chain and it usages* Feb 2022 - Present
- **Competitive Programming Winter Camp** Cairo, Egypt  
*Practiced different competitive programming skills on different online judges* Jan 2022 - Feb 2022
- **Marketing Committee, Member, Developers Club** AUC, Cairo, Egypt  
*Digitally marketed for the clubs using social media platforms* September 2020- May 2021

## CERTIFICATES

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

## SKILLS SUMMARY

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- **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

**Reference Furnished Upon Request**