

# 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*

## EXPERIENCE

- **Benya Systems** on-site  
*Computer Vision Intern* *June 2022 - Present*
  - Learnt Basics of Computer Vision and utilized OpenCV to implement road lane detection.
  - Learnt Neural Networks and applied it to implement digit recognition model using Tensorflow.
  - built camera surveillance system using computer vision that is used to record attendance of the company employees.
- **American University in Cairo** on-site  
*Undergraduate Teaching Assistant* *Feb 2022 - June 2022*
  - Assisted in Computer Architecture Lab and Graph theory Course.
  - Arranged office hours and provided guidance to students.

## PROJECTS

- **Medical Health Record Systems using Scrum methodology:** (MySQL, Node JS, Prisma, Flutter)
  - Applied Scrum methodology to organize and build the project.
  - Collaborated with team members to divide the responsibilities.
  - Designed the back-end using NodeJs and Prisma using Model-View-Controller structure.
- **Product reviews sentiment analysis using Neural Network:** (Python, Flask)
  - 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 a web app using Flask to allow users to try the model.
  - Integrated online learning for the model to learn better using 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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- **Student Union Mobile Application, General Manager, Student Union**  
*Lead and supervised multiple teams and their general managers who provided training and tasks to members to implement features to be used by the university students*  
AUC, Cairo, Egypt  
Sept 2022 - present
- **Cloud Computing, Mentor, Google Development Student Club(GDSC)**  
*Prepared and held mentoring session(s) in cloud computing in google summer jam*  
Cairo, Egypt  
Feb 2022 - June 2022
- **Student Union Mobile Application, General Manager, Student Union**  
*Maintained a mobile application used by over 6000 users. Lead and trained members to use React Native to develop new features in the application. Contributed to building the backend using NodeJs and AWS lambda functions.*  
AUC, Cairo, Egypt  
Feb 2020 - June 2022
- **Cyber Security, Member, Github Community**  
*Learned the basics of ethical hacking*  
AUC, Cairo, Egypt  
Feb 2022 - June 2022
- **Block Chain, Member, Github Community**  
*Learned the basics of block chain and its usages*  
Cairo, Egypt  
Feb 2022 - June 2022
- **Competitive Programming Winter Camp**  
*Practiced different competitive programming skills on different online judges*  
Cairo, Egypt  
Jan 2022 - June 2022
- **Marketing Committee, Member, Developers Club**  
*Digitally marketed for the clubs using social media platforms*  
AUC, Cairo, Egypt  
September 2020- May 2021

## CERTIFICATES

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- **Leadership Certificate**  
*Attended equivalent of 30 hours of class time about leadership. Practiced and discussed different leadership styles.*  
AUC, Cairo, Egypt  
Feb 2022 - June 2022

## 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, AWS

**Reference Furnished Upon Request**