

Youssef Amir

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EDUCATION

STEM High School for Boys - 6th of October

GPA: 3.5/4.0 unweighted

10/2020 – present

Giza, Egypt

Duolingo English Test

Overall: **130** | Literacy: **140** | Comprehension: **125** | Conversation: **125** | Production: **140**

RESEARCH PROJECTS

Reducing effects of climate change on agriculture and plant health using an IoT system

The purpose of this research project is to reduce the effects of climate change on soil and plants and tackle the problem of desertification in Egypt. The project includes a car equipped with 4 sensors to measure the UV intensity, temperature, humidity, pH, and moisture of the soil. The data collected from the sensors is sent using Arduino and ESP8266-01 to a real-time Firebase database and then to a Google sheet to save all the data. After that, it is sent to a **GUI**, where it gets visualized in graphs. Finally, it uses the data to generate maps of the affected areas and develop recommendations for farmers and other stakeholders on how to address the identified problems. **Github:** <https://github.com/YoussefIbnAmir/AgriVehicle>

Enhancing Egypt's electroplating industry by integrating a feedback system for monitoring the plated layer's thickness

This research project discusses how the electroplating industry in Egypt has several flaws, starting with how the plating thickness can be inaccurate sometimes, and finishing with how much human labor it takes to complete the plating accurately. The paper then elaborates on how a digital-caliper based feedback system can be installed to monitor the plated thickness and stop, increase, or reverse the plating as needed. The project succeeded in maintaining high plating accuracy

Treating Sewage Water

This project suggests a new way of treating sewage water mainly by using aerobic bacteria. At the end of this process, the water will be clean and usable in agriculture. Besides, there will be participated organic material resulting from dead bacteria and wastes. They're called floc and they can be used as a fertilizer.

EXPERIENCES

Youth Science Journal

2022 – Present

- Trained 4 students in research: held 10 sessions and made/graded 15 assignments, 10 questions each.
- Supervised/evaluated 2 papers in **Cryptography** & **Image Segmentation**

School Magazine

2022 – Present

Founder | President | Lead Editor

- Founded my school's 1st magazine
- Recruited & oversaw **30** volunteers
- Wrote **5** & reviewed **50+** articles with **600+** words each.
- The **first issue** reached **0.5k+** readers

IEEE Helwan Student Branch

2021 – 2022

Writer and Editor

- Wrote **15** and reviewed **25+** articles in the fields of Computer Science & Engineering
- Led the **1st issue**
- Held **5** sessions for **15** members about scientific journalism
- Won the season's best volunteer award

STEM High School for Boys - 6th of October

10/2021 – Present

Capstone Projects Instructor

- Held night sessions twice a week for underclassmen to guide them through their engineering projects.
- Supervised **45** students (8 groups) in their projects from start to finish, reviewed **50+** pages of project documentation (portfolio) per group, gave feedback, and provided guidance for prototype construction and model-building.

STEM MUN

2022 – Present

President

- Supervise 8 committees and **90+** members.
- Ran team's treasure; raised **5k** EGP funds for the team.
- Prepared a study guide and trained **25** delegates in debating and International Relations.
- Initiated a blog to spread more awareness about the UN, SDGs, and major political issues.
- Chaired an 8-hour conference.

STEM Admissions Mentorship

2021 – Present

Mentor | Vice President

- Led 30 STEM-subjects mentors in training **280** prospective STEM students

- Coached **6** mentees in English & prepared **100+** questions
- Held **20+** sessions and supervised **50+** exams
- **232** among the **280** were accepted into STEM Schools

Writing

- Proven ability in creative writing and self-expression through a personal blog featuring personal articles and a series of reviews, where I analyze films and books and extract their messages.
- Developed strong skills in storytelling, critical thinking, and effective communication through regular blogging.
- Consistently committing to a daily writing practice for over three years, dedicating an average of **30** minutes per day.
- Utilized blog as a platform to showcase writing skills and engage with a community of readers.

VOLUNTEERING EXPERIENCES

Resala

- Organized garments distribution to 120+ families.
- Distributed 600+ adult diapers to 10+ elderly.
- Gathered 150+ clothes and 48+ books for orphans.

Scout

Member | Patrol Leader

Joined in 2013

- Participated in 30+ camps and 15+ scouting days.
- Organized 26 school events and held 20 sessions for newcomers
- Awarded best among 100+ scouts.


AWARDS

Top 10% (250+ international teams) in qualification round, National finalist and top 15 teams on Egypt

International Informatics Olympiad in Teams (IIOT)

National finalist & top 20% among 175+ teams

Egyptian Collegiate Programming Contest (ECPC)

Bronze Honor and top 25% among 5500+ participants 

International Youth Math Challenge (IYMC)