

AHMED KHALED

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SUMMARY

A well-rounded Software Engineer and Google Summer of Code 2024 participant, combining academic studies, hands-on technical knowledge, work experience, and interpersonal skills. Pursuing a Bachelor's degree in Computer Science with a 3.9 CGPA. Built 6+ projects and worked using C++, Java, Python, Data Structures, and Algorithms. Experienced in effectively communicating technical concepts. Proven ability to collaborate effectively with teams.

EDUCATION

Bachelor of Computer Science, Ain Shams University. Oct 2022 - June 2026 (Expected)

- **Relevant Courses:** Analysis & Design of Algorithms, Data Structures, OOP, Database, Artificial Intelligence, and Technical Writing. (**CGPA:** 3.877/4.0) (**First in class**, Year 1)

SKILLS

Technical Languages	C++, Java, Bash, SQL, QML, CSS, C# (familiar), Python (familiar)
Technical Skills	OOP, Data Structures, Algorithms, Git, GitHub, GitHub Actions, Linux, AppImage Packaging, Oracle VirtualBox, QT, Relational Databases
Soft Skills	Communication, Planning, Presenting, Public Speaking, Open-mindedness, Curiosity, Flexibility, Fast Learning, Documentation, Troubleshooting, Teamwork, Leadership
Languages	Arabic (Native), English (Fluent), French (Elementary) (Eager to learn new skills)

EXPERIENCE

Paid Software Contributor, Synfig during Google Summer of Code 2024. July 2024 - Oct 2024
Synfig Studio is a powerful and open-source 2D animation software. *Remote*

- Automated the generation of release notes when a new GitHub release is created, eliminating manual effort for release notes creation by creating the [Release Notes Manager](#) using C++, GitHub Actions, Git, GitHub API.
- Automated showing contributors how their pull requests will affect the release notes, this aims to enhance the pull requests and release notes descriptions and gives Synfig's pull requests a more professional feel to attract more contributors. [PR](#)
- Improved accessibility for users by making Synfig easy to use on any Linux distribution by packaging it into an [AppImage](#) using [bash scripts](#) and testing it on 6 Linux distributions.
- Ensured code quality, maintainability, and clear communication by adding Unit tests (doctest), detailed Code documentation (doxygen) and sending [weekly status updates](#).

PROJECTS

Lumen. Helps university students save valuable time by optimizing their university schedules. [GitHub Repo](#)

- Team led 6 talented individuals throughout brainstorming the idea, creating the UI designs using Figma, learning QT and QML, and creating Lumen using C++, Data Structures, and Algorithms.

Social Media Sentiment Analysis. Utilizing Natural Language Processing (NLP) techniques and machine learning models to classify the sentiment expressed in social media data. [Jupyter Notebook](#)

- Prepared data for machine learning models by applying text vectorization (Bag-of-words/TD-IDF), cleaning the textual data using stemming, and using Python.

Image Encryption and Compression. Worked on compressing images with a compression rate of up to 40% using Huffman Coding and C#. [GitHub Repo](#)

FlyXpert. Desktop Flight Booking System Object Oriented Programming academic project.

[GitHub Repo](#)

- Finished this project in a short time with high quality as demonstrated in the GitHub repo, by leading my team of 7 individuals, communicating clearly with them, instructing them on how to use Git and GitHub to increase our productivity, and working using Java, JavaFX, and CSS.

Git started. Educational story game that helps software engineers learn Git.

[GitHub Repo](#)

- Received innovative idea [award](#) from IBM from 100+ teams by working using C++, introducing my team to Git, and leading them to create a game that helps people learn it.

EXTRA-CURRICULAR ACTIVITIES

- Instructor at Open-source Community (OSC) student activity in which I taught 100+ students [Git and GitHub](#), Linux text processing, and Regex [on-site](#). Over 95% of the students' feedback was positive.
- Trainee at acmASCIS student activity in which I completed levels 1 and 2 in problem-solving using C++, Topics (Optimization, Complexity Analysis, Number theory, Data structures, and Algorithms).

ACHIEVEMENTS

- Competed in ECPC, Egyptian Collegiate Programming Qualifications Contest 2023, and ranked 42nd out of 200+ teams using C++, Data Structures, and Algorithms. [Certificate](#)
- Solved 350+ problems on the competitive programming website Codeforces. [Account](#)
- Received 2nd place in Open-source Community (OSC) student activity UI/UX workshop from 20+ teams, based on innovation and creativity. [Certificate](#)
- Participated in [Python Discord's 2021 Summer Code Jam](#) by finishing in 11 days a Text User Interface Python Game with a team of 5 random individuals. [GitHub Repo](#)
- Participated in Python Discord's 2021 Pixels Event in which I practiced interacting with an API to paint pixels on a virtual canvas using Python. [Pixels Event](#)