Khaled Labeb

Software Engineer
Gmail | **+201550785630** | **GitHub** | **linkedin**

summary

third-year Computer Science student and software engineer with **3.75 GPA** at Menoufia University. **Candidate Master** on Codeforces with **4000+** solved problems and **ACPC Finalist**. Proficient in Java, C++, Python, C#, JavaScript and SQL, with deep expertise in algorithms, data structures, OOP, database systems and software engineering principles.

Education

B.S. in Computer Science and Engineering, **GPA: 3.75/4.0, Rank: 5th** **2021 - 2026**
Faculty of Computer Science and Engineering, **Menoufia University** **Menofia, Egypt**

Work Experience

Coach Academy PST **04/2024 - present | Cairo**

- Teaching graduates, university students, and school students Algorithms, Data structures, Problem solving techniques, and Competitive programming.
- I have taught more than **400** students from all over the world

Achievements

- Ranked 25th at the Africa and Arab Collegiate Programming Championship **(ACPC) 2024** out of +100 teams
- ECPC Qualification 2024 day 3 , TCPC 2024 and QCPC 2024 **Judge and problem setter**
- Rated **Candidate Master** at Codeforces, **Guardian** at LeetCode and solved **4000+** algorithmic problems on different online judges

Projects

Gitlet | ***Distributed version control system in Java***

- Developed a Git-like version control system in Java with 3-stage architecture (working, staging, remote) supporting essential features such as staging, committing, branching, rebasing and merging, with conflict detection and resolution.
- Implemented file tracking and snapshot mechanisms using SHA-1 hashing, persistent storage, and advanced data structures to efficiently manage and retrieve version history.
- Utilized Directed Acyclic Graphs (DAGs) and Depth-First Search (DFS) for Lowest Common Ancestor (LCA) computation, enabling seamless branch management.

Arcade-games | ***Collection of games implemented in HTML, CSS, JS***

- Built a collection of 12 classic arcade games using HTML, CSS, and JavaScript, implementing core gameplay mechanics like animation, collision detection, and score systems.
- Applied modular JavaScript and clean code practices, improving maintainability and scalability

Page-Flow | ***GUI Library management system using Python***

- Developed a Library Management App in Python, integrated with MySQL for efficient management of books, users, and transactions.
- Designed and implemented database schemas for inventory, borrowing history, and user accounts, ensuring data integrity with normalization and constraints.
- Built features for real-time book availability tracking, seamless borrowing/return processes, and database synchronization.
- Implemented role-based access control for admins and users, ensuring secure and customized functionality access.

Graph traversal visualization | ***GUI graph visualizer in Python***

- Developed an interactive graph traversal visualization tool in Python using Pygame, featuring real-time visualization of Breadth-First Search (BFS) and Depth-First Search (DFS) algorithms.
- Enabled users to customize grids by setting start/end points and obstacles, dynamically visualizing the pathfinding process.
- Added a feature to count the number of paths with a length equal to the shortest path between two cells.

chess-game | ***Chess app using WPF and .NET 8.0***

- Developed ChessApp, an offline chess game using C#, WPF, and .NET 8.0, featuring a sleek, user-friendly interface and implemented Player vs. Player mode, adhering to official chess rules for an engaging experience across skill levels.
- Built key features, including chessboard representation, legal move highlighting, check/checkmate detection, pawn promotion, stalemate situations and game logic for movement and capturing.

Volunteering Experience

ACM ICPC Menofia Community

Development Team Leader

- Managing problem-solving trainings in my university and teaching advanced competitive programming topics
- Trained Freshmen to enhance their problem solving skills and algorithmic thinking.
- Coaching Students for participating in The Egyptian Collegiate Programming Contest (ECPC)

Technical Skills

Languages: C++, C#, Java, Python, SQL, HTML, CSS, JavaScript
Tools: Linux, Git, GitHub, MySQL, VS Code, JetBrains
Testing: Unit testing (JUnit)
Concepts: Data Structures, Algorithms, OOP, Database Systems, Operating Systems, SOLID Principles, Design Patterns