

Mohamed Tarek Abdallah

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Software Engineer

Summary

I am a driven and self-taught software engineer with comprehensive experience in developing large-scale projects and a solid foundation in the Software Development Life Cycle (SDLC). **Since 2019**, I have dedicated myself to mastering the principles and practices of software development, building strong technical and problem-solving skills. While I have not yet held a professional role in the field, I am eager to contribute my expertise, adapt quickly, and make a meaningful impact as part of a dynamic team.

Experiences / projects

• Full-Stack E-Commerce Web Application Oct 2023 - Aug 2024

Built a full-stack E-commerce app serving 10000+ users using Node.js, Express, MongoDB, and React, featuring user authentication, product search, shopping cart, and payment integration with features like:

- Implemented secure user authentication and authorization for account management.
- Developed product listing with advanced search and filtering features.
- Integrated shopping cart functionality for adding, removing, and modifying products.
- Enabled secure payment processing through payment gateway integration.
- Built an admin dashboard to manage products, orders, and user accounts efficiently.
- [GitHub Repository](#)

• Full-Stack Real-Time Chat Application Nov 2023 - Mar 2024

Developed a real-time chat application enabling instant text communication collaborate with online instructor serving 1000+ users daily, featuring private and group chats with real-time updates. Built with Node.js, Express, Socket.io, MongoDB, and React, integrating the front-end and back-end using RESTful APIs with features:

- Secure user authentication and registration system.
- Real-time messaging with instant updates via WebSocket or Socket.io.
- Responsive user interface optimized for both mobile and desktop devices.
- [GitHub Repository](#)

• Driving Licence Management Desktop Application Aug 2024-Present

Currently developing a desktop application for managing driving licenses serving 1000+ users. Built with C# and .NET Framework, and powered by MSSQL Server for database management collaborate with Dr/ Abu-Hadhoud with features like:

- Intuitive user interface focused on enhancing usability and efficiency.
- Secure functionalities for registering, updating, and managing driving license data.

Database Design:

- Created an efficient database structure using ER diagrams.
- Applied ACID principles to ensure reliable transactions.
- Implemented normalization to reduce redundancy and optimize performance.
- [GitHub Repository](#)

• Problem-Solving Challenges

Jun 2023 - Present.

Passionate about improving my problem-solving skills, consistently working on complex challenges. Solved over **1,000 problems** on [LeetCode](#), achieving top 5% global ranking and covering a wide range of algorithms and data structures. Dedicated to refining my analytical thinking and developing efficient, optimized solutions to real-world coding problems and real-world software problems.

• C++ Projects Development.

Developed multiple projects using **C++** as part of my learning journey, focusing on Object-Oriented Programming (OOP) design principles like:

- **Bank System:** Developed a banking system application in C++ using OOP principles, automating 20+ banking operations, reducing manual errors by 30%.
- **Tic-Tac-Toe Game:** Created a console-based, interactive tic-tac-toe game.
- **Calculator:** Designed and implemented a functional, basic calculator.

Courses

- Learning a course in E-commerce business, gaining expertise in key strategies, tools, and platforms for building and managing online stores, with a focus on dropshipping and Shopify
- Completed a course on Agile Methodologies and Scrum, covering Agile principles, Scrum framework, and best practices for project management.
- Learn the basics of programming and software development online and from best youtube channels.
- Full Roadmap Courses of Dr/Mohamed Abu-Hadhud.
- MIT Courses about Data-structure and Algorithms and others.
- IT Free Courses and computer science foundations and software engineer online.

Education

- Bachelor Degree of Science Ain-Shams University in Cairo/Egypt 2021.

Skills

- **Languages & Frameworks:** C++, C#, JavaScript, TypeScript, .NET Framework, Node.js, Express.js, Nest.js, Next.js, React.js, HTML, CSS
- **Software Development:** Object-Oriented Programming (OOP), OOP Design, SOLID Principles, Design Patterns, API Development (RESTful, GraphQL), Agile Methodologies and Scrum, Cryptography(Basics).
- **Databases:** MSSQL Server, MongoDB, PostgreSQL.
- **DevOps & Cloud:** Cloud (Basics), CI/CD Pipelines, AWS (Basics)
- **System Knowledge:** Operating Systems (OS), Networking, Debugging
- **Problem Solving:** Algorithms, Data Structures, Problem Solving, API Testing, Testing Basics.

Languages

- **English:** Professional proficiency.
- **Arabic:** Native proficiency.
- **German:** Basics proficiency.