

# Ali Tarek Mohamed

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## 🎓 EDUCATION

Faculty of Computer Science and Artificial Intelligence - Cairo University

09/2021 – Present

### Relevant Courses:

- Software Engineering
- Algorithms Design and Analysis
- Object-Oriented Programming
- Computer Networks
- Database Systems
- Operating Systems
- Data Structures

## 📁 PROJECTS

### InstaChat (MERN Stack) 🔗

- Developed InstaChat, a real-time chat application
- Utilized Node.js and Express for a robust server-side architecture.
- Implemented Socket.io for real-time bidirectional communication between server and clients.
- Designed a user-friendly interface supporting private chats only, with all users as friends by default.

### Student Management System (C++) 🔗

- Developed a streamlined student information management system using OOP principles.
- Utilized advanced data structures for efficient data handling:
  - Binary Search Tree (BST): Efficiently searched student IDs.
  - AVL Tree: Maintained balanced height for consistent operation time complexity.
  - Min Heap: Prioritized students with the lowest GPA.
  - Max Heap: Optimized access to students with the highest GPA.
- Enhanced data retrieval efficiency and accuracy, ensuring optimal system performance.

### E-Commerce Orders & Notifications API (Java / Spring Boot) 🔗

- Implemented a RESTful API module using Java and Spring Boot for efficient online purchase and notification management.
- Key features included:
  - Product display with remaining counts.
  - Customer account management with balance control.
  - Order placement (simple and compound).
  - Detailed order information review.
  - Streamlined shipping processes with fee deduction.

### Bakery Website (NextJs, TypeScript, Tailwind CSS) 🔗

- **See Project** 🔗
- Developed a responsive front-end template for a bakery website.
- Created visually appealing layouts showcasing bakery products.
- Designed sections for best sellers, articles, and testimonials.
- Ensured mobile responsiveness and cross-browser compatibility.

## 🧠 SKILLS

**Frontend Technologies:** ReactJs | NextJs | Tailwind CSS | HTML | CSS | JavaScript | TypeScript

**Backend Technologies:** NodeJs | ExpressJs | PostgreSQL | MongoDB

**Other Languages and Tools:** C++ | Java | Python | Git | GitHub | Design Patterns | SOLID Principles | REST API | Problem Solving

## 🏆 ACHIEVEMENTS

### Meta Hacker Cup Contestant 2023 🔗

- Practice Round: Ranked 948th out of 12,138, qualified for Round 1.
- Round 1: Ranked 3,941st out of 20,324, qualified for Round 2.
- Round 2: Ranked 3,532nd out of 6,193.

### ECPC

- Participated twice in ECPC qualifications, contributing significantly to competitive programming.

## 🌐 LANGUAGES

English — Fluent

Arabic — Native/Bilingual