

Mohamed Bakr Mohamed

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SUMMARY

Full Stack Developer specializing in the MERN stack with experience building RESTful APIs, CLI tools, and responsive web applications. Led technical instruction for 50+ students. Strong foundation in data structures, algorithms, and software engineering principles.

EDUCATION

South Valley University

Bachelor of Science in Computer Science

Expected 2028

Qena, Egypt

- Relevant Coursework: Data Structures, Algorithms, Object-Oriented Programming, Database Systems, Software Engineering.
- Cumulative GPA: 3.69 / 4.0

EXPERIENCE

Head of C++ Track & Instructor

Student Support Initiative, South Valley University

2026 – Present

Qena, Egypt

- Led the C++ programming track as Head of Track, designing curriculum and mentoring 50+ students in fundamental programming concepts.
- Delivered 10+ hands-on instructional sessions covering C++ syntax, OOP principles, data structures, and algorithmic techniques.
- Collaborated with student organizers to provide academic resources and study materials, assisting over 300 students across various tracks.

Freelance Backend Developer

Self-Employed

2025 – Present

Remote

- Constructed backend services and RESTful APIs using Node.js, Express.js, and MongoDB for 3+ freelance web projects.
- Spearheaded the creation and publication of **@mohamed_bakr/jsondb** on npm, a lightweight local database package mirroring Mongoose functionality, surpassing 50 downloads.
- Designed JWT authentication flows with 3 validation layers and error handling across 2 production-ready API architectures.

TECHNICAL SKILLS

Languages: JavaScript (ES6+), TypeScript, HTML5, CSS3, C/C++, Python, SQL

Frameworks & Libraries: Node.js, Express.js, React.js, RESTful APIs, JWT Authentication

Databases & Tools: MongoDB, SQL Server, Git, GitHub, Postman, Figma, VS Code, npm

Soft Skills: Technical Mentoring, Team Leadership, Communication, CLI Optimization, UI/UX Design Awareness

Currently Learning: Artificial Intelligence (AI), Docker, System Design

Spoken Languages: Arabic (Native), English (B2 – Upper Intermediate)

PROJECTS

jsonDB (npm Package) | *Node.js, TypeScript, JSON, CLI* | [GitHub](#) | npm

2026

- Architected **@mohamed_bakr/jsondb** for npm, a Mongoose-inspired local JSON database package achieving over 50 downloads.
- Implemented 4 schema validation rules and 6 query methods, enabling developers to persist data without external database setup.

– Programmed TypeScript support and a fluent API with 10+ chainable methods, reducing boilerplate code for small-scale applications.	
Storify <i>Python, Tkinter, JSON, Desktop GUI</i> GitHub	2026
– Created a desktop inventory management application with Python and Tkinter, featuring 2 user portals with role-based access control across 6 modules.	
– Engineered dual-portal functionality with JSON data persistence across 6 structured files, including product CRUD, configurable promo codes, shopping cart, and automated invoice generation.	
Task Manager CLI (npm Package) <i>JavaScript, Node.js, CLI</i> GitHub npm	2025
– Authored a robust CLI task management tool deployed to npm, with 8+ commands, enabling workflow management directly from the terminal.	
– Unified file handling and persistent JSON storage for 50+ tasks via intuitive command-line interface design.	
– Optimized command-line operations for 5 core workflows, enhancing developer productivity over traditional GUI-based task managers.	
Task Harmony <i>React, Supabase, Tailwind CSS</i> GitHub	2025
– Crafted a performant task organization web application with 8+ React components, real-time Supabase integration, and responsive UI.	
– Integrated dark-mode and responsive layouts across 3 breakpoint sizes, improving usability across devices.	
Book Library GUI <i>C++, Qt Framework</i> GitHub	2025
– Produced a cross-platform desktop application for digital library management, handling 100+ book records via an intuitive Qt-based GUI.	
– Assembled 4 core CRUD operations, search, and a database interface using C++ OOP principles across 3 data models.	
Node.js Backend Platform <i>Node.js, Express.js, MongoDB, JWT, TypeScript, WebSockets, Docker</i> GitHub	2026
– Built a modular backend platform covering 9 core Node.js concepts, implementing 15+ RESTful API endpoints with Express.js and native HTTP modules.	
– Incorporated JWT authentication, input validation, and role-based access control across 15+ endpoints, ensuring secure data handling.	

CERTIFICATIONS

Web Design Certificate	2025
<i>National Telecommunication Institute (NTI)</i>	Egypt
Introduction to AI	2025
<i>Google Developer Groups (GDG)</i>	Egypt
Mobile Development	2025
<i>Google Developer Groups (GDG)</i>	Egypt
Node.js Development	2026
<i>MaharaTeck</i>	Egypt
Python Programming	2026
<i>MaharaTeck</i>	Egypt
Startup Launchpad	2026
<i>Dandara Alebdaa</i>	Egypt

EXTRACURRICULAR ACTIVITIES

Peer Academic Mentor & Community Contributor

2025 – Present

Student-Led WhatsApp Learning Community

Qena, Egypt

- Co-founded a student-led WhatsApp community for peer academic support, sharing study materials and conducting exam review sessions for 300+ students.
- Offered 20+ hours of real-time debugging support and one-on-one mentoring in C++, data structures, and algorithms.

University Problem-Solving Event Participant

2024 – Present

South Valley University

Qena, Egypt

- Participated in university-organized competitive programming events focused on enhancing algorithmic thinking and coding challenges, solving 200+ problems.