

Tarek Ragab

 Tarek-Ragab-Abdelal |  in/tarek-ragab |  Upwork Profile |  Portfolio
 tarek.madany113@gmail.com |  (+20)1090477381

SUMMARY

Full-Stack Software Engineer specialized in backend development, database engineering, and scalable cloud solutions. Experienced in building high-performance systems using .NET, React, SQL, and Azure, with a proven ability to deliver data-driven web applications that enhance reliability and maintainability.

SKILLS

- **Programming Languages:** C#, C++, JavaScript, TypeScript, Python, Dart.
- **Frameworks & Platforms:** .NET, Node.js, Nest.js, React, Flutter.
- **Cloud & Serverless:** Azure Function Apps, Azure Service Bus, Azure Web Hosting, Azure IoT Hub, ELK Stack.
- **Data & APIs:** SQL Server, PostgreSQL, RESTful APIs, WebSockets, Message Queuing, Data Migration, ETL Pipelines.
- **Embedded & IoT:** ESP32, STM32, C++, MQTT, OTA Updates, Secure Firmware, Device Provisioning.
- **Version Control & CI/CD:** Git, GitHub, GitHub Actions.
- **Miscellaneous:** UML, Documentation Practices, Markdown, LaTeX, Agile, Scrum, Waterfall.

WORK EXPERIENCE

Full-Stack Software Engineer, RES-VA

Jun 2024 – Present

- Built full-stack solutions using React.js, C#, .NET, and SQL Server, streamlining KPI tracking and data management.
- Automated workflows with **Azure Function Apps and Service Bus**, reducing data collection time by **10×**.
- Implemented deployment pipelines improving maintainability and version traceability.
- Collaborated on the **ERD design** for a multi-tenant file management system.

Database Engineer (Upwork Freelance), Sanad Finance

Jun 2024 – Present

- Implemented **Python data migration scripts** transferring data from **SQL Server** to **PostgreSQL** with restructured schema and constraints.
- Designed and optimized **materialized views** and complex **CTEs** for reporting dashboards.
- Built and configured an integrated **ELK (Elasticsearch, Logstash, Kibana)** stack to visualize performance analytics directly from PostgreSQL.
- Improved data reliability and query performance by **30%**.

Embedded IoT Engineer (Upwork Freelance), Boreal Laser Inc.

Jun 2023 – Dec 2023

- Developed firmware for multi-sensor IoT devices ensuring secure communication and stable real-time telemetry.
- Built a lightweight IoT dashboard using **Vanilla JS, HTML, and CSS** to visualize live sensor data, reducing diagnostic time by **30%**.

- Desktop App Developer (Upwork Freelance), Boreal Laser Inc.

Feb 2024 – Apr 2024

 - Built a cross-platform **Flutter Desktop licensing application** integrated with APIs and hardware-based encryption.
 - **Reduced manual license issuance time by 50%** through automated validation workflows and local caching.
- Embedded IoT Engineer (Upwork Freelance), Signal Dynamic

Apr 2023 – Jun 2023

 - Developed firmware for a **Universal IoT Module** enabling secure bidirectional communication via **Azure IoT Hub**.
 - Implemented OTA (Over-the-Air) updates and telemetry pipelines supporting predictive maintenance.
 - Designed device provisioning and cloud event routing for scalable IoT deployments.
- Mid-Level IoT Firmware Engineer (Full-time), SudoTechs

Jun 2022 – Oct 2024

 - Created IoT systems architecture and implemented firmware for **20+ industrial devices**.
 - Optimized embedded workflows, **reducing data transmission delays by 80%**.
 - Delivered scalable IoT solutions handling **2× more connected devices**.
- IoT Instructor (Part-time), CIC, Cairo

Oct 2022 – Oct 2023

 - Structured and delivered a hands-on IoT curriculum for **200+ students**.
 - Conducted **80+ hours** of workshops and lab sessions focusing on microcontrollers and IoT system design.
- Digital Fabrication Trainee (Internship), Sector B5

Jun 2021 – Sep 2021

 - Gained practical experience with 3D printing (FDM, SLA) and CNC machining.
 - Built an autonomous maze-solving robot achieving **20% faster navigation** than baseline models.

PROJECTS

- Lead Generation Reporting App

(RES-VA)

Developed a reporting platform using **.NET, SQL, Redis, React TS** to visualize real-time leads and productivity metrics, cutting report generation time by **3×**.
- Human Resources Management Platform

(Future of Egypt)

Developed a responsive HR management system with a **Flutter Web** frontend and **Node.js** backend, leveraging SQL views and stored procedures to **boost reporting efficiency by 40%**.
- Industrial Web Dashboard

(Graduation Project)

Created an industrial process visualization tool using **Node.js, React.js**, improving operational response times.
- Maze Solver Robot pi-bot

(Sector B5)

Designed and programmed an autonomous robot using **C++**, achieving **the first place** in the program's competition.

EDUCATION

2018 – 2024 Bachelor of Telecommunication and Electronics Engineering, **Helwan University**, Cairo, Egypt.

LANGUAGES

Arabic C2 – Native / Bilingual
English C1 – Full Professional