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# Abdelkader Rafaat

Web Site  
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## SHORT SUMMARY

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I am a passionate software engineer with a keen interest in leveraging software to solve complex problems. Open-minded about technology, I am a quick learner who thrives on challenges and is always eager to acquire new skills. Adaptable and versatile, I am capable of wearing multiple hats and excelling in various roles within a team.

## EDUCATION

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### Canadian Intentional College

Fall 2013 - Spring 2018

*Communication and Electronics Major*

- Graduation project: **Visually impaired guiding system** that is composed of two main parts: an **Android App** for object detection and face recognition and audio guidance for the user, and a **wearable belt** for obstacle avoidance and elevation detection.
- **Main courses:** Computer Organization and Architecture, Computer Networks, C++ Programming

## WORK EXPERIENCE

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### Software Engineer

September 2023 - Present

*Reality Interactive*

*USA (remote)*

- Developed and maintained a multi-tenant, distributed event-sourcing application for store management, utilizing **Vue** and **Tailwind CSS** for the frontend, and **Node.js**, **Express**, **TypeORM**, and **MSSQL** for the backend. Managed the infrastructure on **AWS**, with a primary focus on backend and DevOps development.
- Designed and implemented a new service leveraging **event-driven architecture** to process video content efficiently, improving scalability and performance for real-time video processing workflows.
- Helped design and develop a new service to stream live content (e.g., **HTML**, **JavaScript**) to media kiosk players, ensuring seamless playback and high availability for end-users.
- Maintained and enhanced a legacy **C#.NET** multi-tenant distributed advertising management system, widely utilized by major U.S. companies, and successfully migrated components of the system to a serverless architecture.
- Conducted code reviews and performed ongoing maintenance across multiple projects, ensuring adherence to best practices, optimizing performance, and enhancing code quality.

### Software Engineer

February 2023 - September 2023

*Truebase*

*USA (remote)*

- Developed and optimized a high-performance data pipeline capable of aggregating and augmenting millions of records to be used by our AI data model.
- Utilized advanced web scraping techniques and leveraged the **Wikipedia Query Service** to enrich our scraped data and ensure its accuracy and completeness.
- Designed and implemented complex data mapping processes as part of our pipeline architecture to ensure seamless integration and robust data flow.
- Crafted efficient and effective queries that enabled fast searches through millions of records, providing our team with quick and easy access to the information they needed.
- Collaborated with the frontend team to develop and maintain user interface components using modern web technologies such as **React**, to ensure a seamless user experience.

**Software Engineer**  
*Talaat Moustafa Group (TMG)*

**April 2022 - February 2023**  
*Cairo*

- Worked on a new platform providing e-commerce shopping and online services booking using **Node.js**, **Nest.js**, **TypeScript**, **Express.js**, **MongoDB**, and **Redis**.
- Managed a small team of two junior full-stack developers to ensure delivery with best practices and quality.

**Software Engineer**  
*Werkdata OÜ*

**May 2021 - Sep 2022**  
*Estonia (remote)*

- Developed and maintained features for a supplier relationship management web app using **React**, **Node.js**, and **Firestore**.
- Was responsible for the migration of a **Firestore**-based system to **TypeScript**, **Nest.js**, **GraphQL**, **PostgreSQL**, and **AWS**.
- Reverse-engineered an old **PHP**-based site to a modern stack using **TypeScript**, **Nest.js**, **GraphQL**, **Redis**, and **PostgreSQL**.

**Software Engineer**  
*Self-Employed*

**Aug 2020 - May 2021**

- Worked as a freelance full-stack developer using the **MERN** stack to build web apps for different small-sized startups in Egypt. Some projects are listed below.

**Software Engineer**  
*EgyRobo*

**Aug 2019 - April 2020**

- Delivered KUKA robotic arms industrial solutions guided by computer vision and machine learning to achieve several tasks using **KRL (KUKA Robotic Language)** and **Python OpenCV**, such as material handling and welding.

## SKILLS

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<b>Programming Languages</b>	TypeScript, JavaScript, Golang, C#, Python.
<b>Frontend</b>	React.js, Vue.js, Next.js, MUI, Mantine, Tailwind CSS.
<b>Backend</b>	Node.js, Express.js, Nest.js, .Net, Flask, FastApi, GraphQL, RabbitMQ, SQS
<b>Databases</b>	MongoDB, Mongoose, Redis, PostgreSQL, MSSQL, TypeOrm
<b>DevOps</b>	AWS, Docker, Virtual Machines(VmWare) ,Kubernetes (fundamentals)
<b>Python libraries</b>	OpenCV, NumPy, Pandas, Tesseract
<b>Testing</b>	Mocha, Cypress
<b>Other</b>	Linux, Bash