Ibrahim Ahmed *Software Engineer*

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PROFESSIONAL EXPERIENCE

Software Engineer Freelancer   01/2024 – present | Cairo, Egypt
- Participated in developing an **e-commerce** platform, implementing features such as product listings, **shopping cart**, and **payment** gateway integration.
- Designed and built an admin **dashboard** for effective management of user data, and sales analytics.
- Linked frontend and backend components to ensure efficient data flow, user **authentication**, and dynamic content updates, enhancing overall functionality and user experience. ✐

Software Engineer Intern   04/2023 – 11/2023 | Cairo, Egypt
Post-graduate College, Police Academy
- Developed an offline-first full-stack application using **React.js** and **Node.js, Express.js** to streamline research publication processes ensuring data security and accessibility.
- Implemented user authentication and authorization features, employing **JWT**-based authentication for secure **API** access.
- Designed and structured the frontend interface with **React.js**, incorporating various components for research submissions, researcher management, and journal editions.
- Integrated a **PostgreSQL** database for efficient data storage and retrieval, utilizing **db-migrate** for database migrations and ensuring schema consistency.

PROJECTS

E-Buy API ✐   06/2024 – 06/2024
- Developed an e-commerce platform using **TypeScript**, **Node.js**, **Express.js**, and **MongoDB**, ensuring scalability, and maintainability. Designed and indexed MongoDB schemas for efficient **CRUD** operations.
- Implemented user **authentication** and **authorization** with secure **JWT**, and developed **shopping cart** features, including item management and discount codes. used **Vercel** to deploy a live instance of the API ✐
- Integrated payment processing with **Stripe** and automated email notifications using **Nodemailer, and SendGrid**. Utilized **Cloudinary** for image management and **Pug** templates for emails.
- Created a responsive admin **dashboard** for monitoring sales, user activities, and revenue metrics. Implemented product management features like listings, categories, and reviews.
- Leveraged **TypeScript** interfaces for clear API contracts, improving productivity. Ensured code quality through modularization, error handling, logging, and version control with **Git**/**GitHub**.

PeakBooker API ✐   05/2024 – 06/2024
- Developed a tour booking application with enhanced user, tour, booking, and review management using **Node.js, Express.js,** and **MongoDB**.
- Implemented authentication and authorization using **JWT**.
- Integrated **Stripe** for payments and **Sharp**, **Firebase** for photo processing and uploads.
- Implemented automated **email** notifications using **Nodemailer** and **SendGrid** and advanced error handling.
- Utilized **Morgan** and **Winston** for comprehensive logging.

Script Symphony ✐   01/2024 – 04/2024
- Developed a full-stack coding blog with **Node.js**, **Express.js**, and **TypeScript**, **React.js**, **PostgreSQL**.
- Implemented authentication, authorization, and file upload features using **Multer** and **Cloudinary**.
- Achieved +**91%** test coverage through comprehensive **unit** and **integration testing** with **Jest**, improving code quality and reliability.
- Received positive user feedback on the Markdown support feature, enhancing article readability and user experience.
- Leveraged **Redux** for state management, allowing for efficient data flow and consistent application behavior.

Smart Insect Monitoring ✐   11/2021 – 06/2022
- Led development of automated insect detection system with cloud-based **YOLOv5** model, achieving +**84%** accuracy.
- Published a **paper** ✐ detailing the project's methodology and findings, contributing to the field of smart insect monitoring.

EDUCATION

Bachelor of Computer Science   09/2018 – 07/2022 | Cairo, Egypt
Faculty of Computers and Artificial Intelligence, Helwan University
Very Good with honor degree, **GPA**(3.16).

SKILLS

- Problem-Solving | Algorithms | Data Structures | OOP | REST APIs | testing | Python | JavaScript | Typescript | Node.js | Express.js | Jest | Jasmine | HTML | CSS | Sass | Bootstrap | React.js | Redux | SQL | PostgreSQL | MongoDB | Mongoose | JWT | Stripe | Firebase | Cloudinary | Teamwork | Communications | Responsibility | Collaboration.

CERTIFICATES

Udacity, Nano Degree In Advanced Full Stack Web Development ⊘
- Developed expertise in building scalable and maintainable APIs using *TypeScript*, with proficiency in managing async/await, promises, and error handling, ensuring robust development practices.
- Built RESTful JSON APIs with *Node.js* and *PostgreSQL*, integrating essential concepts such as database querying, API architecture, *CRUD* operations, and route authorization via *JWTs*, while ensuring comprehensive testing and deployment using *Jasmine* and *Express.js*.

Udacity Nano Degree In Professional Web Development ⊘
- Mastered *JavaScript* fundamentals including data types, logic, control flow, and correct syntax, enabling the creation and modification of web content.
- Enhanced website performance management skills through efficient JavaScript implementation and optimization techniques.

Database Fundamentals ⊘
- Applied practical case studies to build Entity-Relationship Diagrams (*ERD*) and relational databases, emphasizing effective data normalization.
- Proficient in *SQL* for writing statements, functions, and queries to manipulate data and ensure efficient database operations.

ACHIEVEMENTS

Research Paper Publication ⊘
- Published **paper** titled "Smart insect monitoring based on **YOLOv5** case study: Mediterranean fruit fly Ceratitis capitata and Peach fruit fly Bactrocera zonata" detailing leadership role as **team leader** in developing an automated system for detecting and monitoring insects using pheromone-equipped traps and a cloud-based Deep Learning model (**YOLOv5**).

Problem Solving ⊘
- Successfully solved +**250** problems on **LeetCode**, demonstrating proficiency in algorithmic problem-solving and coding skills.

LANGUAGES

Arabic | English