**Name : Dhia  
  
  
1. Professional Summary**

I am a Full-Stack Developer with a strong foundation in physics and engineering principles. My experience combines the **analytical mindset developed through scientific experimentation** with **practical software development skills** acquired through building full-scale applications. I focus on **problem-solving**, **system optimization**, and **secure, scalable solutions** that address real-world challenges.

My journey reflects **adaptability**: from studying renewable energy and thermodynamic systems in a lab, to developing high-performance web applications using ASP.NET Core and React. This combination of technical breadth and depth enables me to approach projects with **rigor, creativity, and structured thinking**—qualities that are essential for engineering roles.

**2. Technical Expertise**

**Backend Development:**

* ASP.NET Core 8 and C# for building secure, modular APIs.
* RESTful architecture design to support independent frontend consumption.
* Implementation of **JWT Authentication**, **secure cookies**, and **data encryption** for robust security.

**Frontend Development:**

* React for, component-based user interfaces.
* Tailwind CSS for scalable and maintainable design systems.
* React Router loaders for optimized data fetching and routing logic.

**Databases:**

* SQL Server and PostgreSQL with Microsoft.Data.SqlClient for optimized query handling.
* Transactional logic and indexing for performance improvement.
* Experience designing normalized schemas for scalable solutions.

**Integrations & APIs:**

* **Stripe 3D Secure** for payment processing.
* **GeoNames API** for location and shipping validation.
* Email verification systems for user authentication workflows.

**DevOps & Deployment:**

* Docker containers for environment consistency.
* Render for backend hosting and Netlify for frontend deployment.
* Swagger for API documentation and testing.

**Programming Practices:**

* Asynchronous programming for efficient use of idle time and responsiveness.
* Performance optimization through lazy-loading and modular architecture.
* Data encryption and secure cookie mechanisms for compliance and safety.

**AI Utilization:**

* Architecture prototyping to evaluate system designs.
* UI ideation and mock data generation for faster iterations.
* Backend optimization through AI-assisted code review and testing strategies.

**3. Projects and Achievements**

**Driver License Management System (04/2024 – 05/2024)**

**Objective:** Build a desktop solution to streamline the management of driver licenses, drivers data, fees, and administrative actions.

**Technologies Used :**

* C# and Windows Forms for application interface and logic.
* SQL Server with Microsoft.Data.SqlClient for database management.
* Layered architecture for modular and maintainable code (10,000+ lines).
* AI-assisted database normalization strategies for better schema design.

**Challenges and Solutions:**

* **Performance Bottlenecks:** Initial queries caused delays. Solved by indexing key tables and optimizing SQL commands.
* **Data Integrity:** Ensured accurate updates with transactional logic and validation layers.
* **Scalability:** Designed modular components to allow future feature expansion.

**Impact:** Reduced data retrieval time , enabling faster administrative workflows. Created a foundation suitable for extending to web or cloud-based systems.

**Full-Stack E-commerce Platform (03/2025 – 06/2025)**

**Objective:** Deliver a production-ready web application capable of supporting small-to-medium businesses with modern e-commerce capabilities.

**Technologies Used:**

* Backend: ASP.NET Core 8, C#, RESTful APIs, JWT Authentication.
* Frontend: React, lazy-loaded for performance.
* Database: PostgreSQL with secure transactional logic.
* Integrations: Stripe 3D Secure for payments, GeoNames API for shipping validation, email verification for user security.
* Deployment: Docker containers, Render for backend hosting, Netlify for frontend delivery.

**Challenges and Solutions:**

* **Independent Backend:** Designed APIs to operate separately from the frontend, tested via Swagger, and managed CORS effectively.
* **Secure Payments:** Implemented secure payment tracking using short-lived JWTs (or encrypted cookies) to store transaction identifiers, ensuring integrity, preventing replay attacks, and keeping user data safe.
* **Performance:** Used asynchronous programming and lazy-loading to reduce response times .
* **Rapid Prototyping:** Used AI for UI layout suggestions and to generate mock product data for early testing.

**Impact:** Successfully deployed a scalable, secure e-commerce solution ready for real-world use, demonstrating the ability to deliver full-stack applications end-to-end.

**Frontend Learning Projects (04/2024 – 11/2024)**

* Started with **vanilla HTML, CSS, and JavaScript** to build small-scale interactive websites.
* Progressed to **React** for component-based architecture and **Tailwind CSS** for design consistency.
* Gained hands-on experience in state management, event handling, and reusable design patterns.
* Balanced these projects alongside academic studies, achieving a **12/20 grade average** to focus fully on software development in the second season.

**4. Teamwork and Soft Skills**

**Physics Lab Collaboration (Renewable Energy Project):**

* Worked in a **team of five** to investigate the effect of light angles on solar capture devices.
* Applied **photometric principles** and **thermodynamic measurements**
* Contributed to **data collection**, **analysis**, and **structured reporting**, presenting findings to the group.
* Learned how to coordinate tasks, divide responsibilities, and communicate technical results effectively.

**Empathy and Peer Mentorship:**

* After exams, supported classmates who needed to retake replacement exams by creating structured notes and summaries.
* Organized group study sessions before tests, fostering a collaborative learning environment.
* Developed **teaching and communication skills** that translate into professional teamwork and knowledge sharing.

**5. Education**

**Physics Degree (Focus: Photometry, Thermodynamics, Renewable Energy Systems)**

* Conducted experiments in renewable energy, applying scientific methodologies to gather and interpret data.
* Learned structured problem-solving, analytical thinking, and technical documentation—all directly applicable to engineering and software development roles.

**6. How This Background Supports Engineering Roles**

* **Problem-Solving:** Experience in debugging code mirrors the troubleshooting of experiments in physics labs.
* **Analytical Thinking:** Both physics and software development require breaking down problems into measurable components.
* **Collaboration:** Lab work and peer mentorship demonstrate ability to work in teams and communicate effectively.
* **Adaptability:** Transition from academic physics to advanced web technologies shows ability to learn quickly and apply concepts to new domains.
* **End-to-End Ownership:** Both major projects reflect taking ideas from concept to deployment, a crucial skill for engineering positions.