Rashed Khalaf Nazal Hamad Alanezi

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EDUCATION

University of Bahrain **Jan 2026**

Bachelors in Cybersecurity

- **Relevant coursework:**
  - Security Risk Assessment & Countermeasures, Ethical Hacking, Penetration Testing, Digital Forensics and IT Auditing.
  - Aware of Penetration Testing Tools such as sqlmap, nmap, ssh and bash scripting.

Reboot Coding Institute **May 2026**

Full-Stack Developer

- Gained hands-on experience in both front-end and back-end development through diverse projects. (Projects available on GitHub.
- Strengthened teamwork, problem-solving, and collaboration skills in a fast-paced coding environment.

CERTIFICATIONS & SKILLS

- **Certifications:**
  - Microsoft Power BI Data Analyst Associate (PL-300).
  - Windows Registry Forensics – infosec
  - ThinkSmart Soft-Skills Training

- **Technologies:**
  - **Hard Skills:** JavaScript (Vanilla, NextJS(react)), Golang, Java, PHP and HTML/CSS, AWS Essentials, Penetration Testing, Programming, database management.
  - **Soft Skills:** Arabic and English speaker, Collaborative working and Time management.

WORK EXPERIENCE

Sama Bahrain Card **Jul. 2024 – Nov. 2024**

Full-stack developer Intern

- **Design and develop** a fully functional phone application along with a website.
  - **Languages Used:** Ionic Framework (Typescript); JavaScript; PHP (Laravel); HTML/CSS; SQL.
- **Collaborated** with senior developers and cross functional teams (design, marketing) to implement new features, code review and troubleshoot issues.

PROJECTS

PASSWORDLESS AUTHENTICATION

Security Authentication Protocol | Android-Studio - JAVA*, Docker, PHP, Public Key Cryptography*

Developed a secure password-less authentication system using passkeys, eliminating traditional passwords and mitigating common attacks such as phishing, credential reuse, and brute-force login attempts. The project focuses on local authentication and device-bound credentials following FIDO2 standards.

- Implemented passkey-based authentication using asymmetric cryptography (public/private key pairs).
- Designed secure registration and authentication flows without transmitting secrets over the network.
- Bound credentials to the device using local secure storage and hardware-backed keystore where available.
- Analyzed security limitations of password-based systems and demonstrated improvements using passkeys.

REAL-TIME-FORUM

Full-stack Web Application | Go, JavaScript, SQL

Developed a dynamic single-page web forum that enables real-time interaction between users through posts, comments, and private messaging. Focused on full-stack development with real-time data handling using WebSockets. and applied key cybersecurity practices to protect user data and application integrity.

- Implemented private chat using WebSockets (Golang backend, JS frontend).
- Designed post and comment features with dynamic feed updates.
- Managed user sessions, secure login, and data persistence with SQL.
- Applied rate limiting to prevent brute-force login, spam and Denial of Service (DOS) attacks.
- Implemented XSS attack mitigation through input sanitization and output encoding

RT-RAY TRACING ENGINE

Systems Programming Project | Rust, Linear Algebra. Computer Graphics

Developed a ray tracing engine in Rust, focusing on performance, memory safety, and low-level control. The project implements core ray tracing principles to render 3D scenes with realistic lighting and reflections while leveraging Rust's ownership model to ensure safe and efficient execution.

- Built a rendering pipeline handling camera setup, rays, and pixel color computation.
- Implemented reflections and recursive ray tracing with controlled depth.
- Optimized performance using Rust's zero-cost abstractions and strict memory management.

GRAPHQL

Full-stack Web-Site | NextJS, GraphQL

Developed a secure and responsive web dashboard to represent school data visually using interactive charts and graphs. Integrated GraphQL endpoints with the Next.js framework to efficiently fetch, filter and display structured data while implementing security best practices to ensure data confidentiality and integrity.

- Designed responsive and user-friendly UI using modern React components through NextJS.
- Ensured clean data handling and optimized frontend performance
- Ensured **secure data transmission** using HTTPS and proper authentication header.

SOCIAL-NETWORK
Full-stack Web Application | Go, Next.js, React, TypeScript, SQLite, Docker

Built a full-stack social media platform that integrates real-time interaction, group collaboration, and event management. Focused on developing a scalable and secure architecture using Go and Next.js, containerized with Docker for seamless deployment.

- Implemented real-time private chat and notifications via WebSockets (Go backend, Next.js frontend).
- Developed core social features: posts with media, comments, likes, and group systems with invitations and requests.
- Integrated event scheduling and participation features to enhance user engagement.
- Built RESTful APIs in Go with authentication, session management, and SQLite (WAL) for persistent storage.
- Containerized the full stack using Docker Compose, enabling isolated and reproducible environments.
- Enhanced UI/UX with Tailwind CSS and DaisyUI, ensuring responsive design across devices.
- Applied input sanitization and authentication checks to mitigate XSS and unauthorized access.

MINI-FRAMEWORK
Custom JavaScript Framework| Vanilla JS, Virtual DOM, SPA Router, Reactive State Management

Developed a lightweight front-end framework inspired by modern libraries like React and Vue, designed for building interactive single-page applications with a minimal footprint and modular architecture.

- Implemented a **Virtual DOM engine** with diffing and patching algorithms to enable efficient, declarative UI updates.
- Built a **reactive global state management system** supporting stores, signals, and automatic component re-rendering.
- Designed a **history-based SPA router** with parameterized routes, custom navigation APIs, and dynamic component mounting.
- Created a **component architecture** supporting stateful, reusable UI modules with lifecycle-like reactive updates.
- Developed an **event delegation system** using a centralized event bus for optimized event handling and keyboard shortcuts.
- Ensured **tree-shakeable modularity**, allowing developers to import only the necessary modules for lean builds.
- Showcased framework capabilities through a full **TodoMVC demo**, demonstrating state persistence, filtering, and routing.
- Engineered **custom utilities** for virtual element creation, style binding, and DOM patching without third-party dependencies.
- Optimized performance with **WeakMap-based event tracking**, reducing redundant event listeners and memory leaks.