

ZAYAN BREICHE
COMPUTER & COMMUNICATION ENGINEER

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OBJECTIVE

I am a junior Computer and Communication Engineer seeking opportunities in software engineering, networking, and IT. Passionate about leveraging technical skills and innovative problem-solving to contribute to dynamic and impactful projects.

EXPERIENCE

Intalio

Doha, Qatar

Software Engineer Intern

Jan. 2025 – Mar. 2025

- Contributed to the development of deployment tool windows application using a full stack of technologies including C# and .NET framework.
- Managed database operations using MSSQL, optimizing queries and ensuring data integrity.
- Built scalable unit tests using xUnit.
- Utilized Git and GitHub for version control, collaborating with the team on code reviews and branching strategies.

Clifton Myers Enterprises (CME Offshore)

Beirut, Lebanon

Software Engineer Intern

Jul. 2024 – Aug. 2024

- Contributed to the development of an e-commerce website using a full stack of technologies including PHP, Laravel, HTML, CSS, JavaScript, React, and PostgreSQL.
- Developed and maintained backend services with PHP and Laravel, ensuring robust data management and API integrations.
- Built responsive and interactive user interfaces using HTML, CSS, JavaScript, and React to enhance user experience.
- Managed database operations using PostgreSQL, optimizing queries and ensuring data integrity.
- Utilized Git and GitHub for version control, collaborating with the team on code reviews and branching strategies.
- Participated in Agile development practices, including daily scrums, sprint planning, and retrospective meetings.
- Collaborated with cross-functional teams, contributing to team management and effective communication.
- Gained hands-on experience in team collaboration tools and methodologies, fostering a productive work environment.

Alfa Telecommunications (ALFA MIC 1 S.A.L)

Beirut, Lebanon

Radio Access Network Engineer Intern

May. 2024 – Jun. 2024

- Gained foundational knowledge of RANs, including architecture, functions, and operations, focusing on efficient data transmission between mobile devices and core networks
- Developed a solid understanding of 3G and 4G/LTE network standards, protocols, and their role in ensuring reliable and high-speed connectivity.
- Collaborated with teams to design and plan antenna installations, considering site-specific requirements, environmental factors, and coverage goals.
- Participated in field visits to assess infrastructure, verify compliance with installation plans, and address site-specific challenges, ensuring successful implementation and maintenance of network components.

PUBLICATIONS

- Zayan Breiche et al., “*SolaClean: An Autonomous Robot for Optimized Solar Panel Cleaning*”, in **Proceedings of 2025 International Conference on Control, Automation, and Instrumentation (IC2AI), IEEE**, DOI: <https://ieeexplore.ieee.org/document/10932294>

PROJECTS

E – COMMERCE PLATFORM

- **Technologies:** PHP, Laravel, HTML, CSS, JavaScript, React, PostgreSQL, Ant Design, Git, GitHub.
- **Overview:**
 - Developed a fully responsive e-commerce platform focusing on seamless user experience and robust backend functionality.
 - Implemented user authentication, product management, and order processing using PHP and Laravel.
 - Built dynamic and responsive front-end components with React, ensuring cross-device compatibility.
 - Managed secure data storage and retrieval with PostgreSQL, optimizing for performance and security.
 - Utilized Git and GitHub for version control, supporting collaborative development in an Agile environment.
 - Delivered features through iterative sprints, contributing to a scalable and maintainable codebase.

FILE DEPLOYMENT WINDOWS APPLICATION

- **Technologies:** C#, .NET Framework, WPF
- **Overview:**
 - Developed a Windows application using WPF and .NET 8 to automate file deployment and backup operations.
 - Implemented folder monitoring using a configuration file to dynamically set source and destination directories.
 - Designed a multi-folder backup system that preserves previous versions before copying new files.
 - Enabled users to roll back backups, restoring previous file versions when needed.
 - Applied best practices in C# and asynchronous programming to ensure a smooth user experience.

LIBRARY MANAGEMENT SYSTEM

- **Technologies:** C#, .NET Framework, WinForms, Design Patterns & OOP Concepts, Data Structures
- **Overview:**
 - Developed a Library Management System using C# and Windows Forms, implementing key OOP principles and design patterns.
 - Implemented OOP design patterns, Singleton (centralized library management), Builder (flexible book creation), and Facade (simplified book borrowing and returning).
 - Followed SOLID principles to enhance maintainability, scalability, and code readability.
 - Used lists and enumerations to manage book availability and member transactions.

AUTOMATED CHECK PROCESSING & SIGNATURE VERIFICATION SYSTEM

- **Technologies:** Python, OpenCV, Pytesseract, TensorFlow
- **Overview:**
 - Developed a system for bank check text extraction and signature validation.
 - Combined OpenCV and Pytesseract for image preprocessing and ROIs detection.
 - Applied ORB/SIFT for signature comparison and authentication.

EDUCATION

NOTRE DAME UNIVERSITY – LOUAIZE

Zouk Mosbeh, Lebanon

Bachelor of Engineering in Computer & Communication Engineering (Distinction)

Jan. 2020 – Dec. 2024

- **Relevant Coursework:** Data Structures, Object Oriented Programming, Principles of Database Systems, Software Engineering, Computer Networks, Computer Security, Communication Systems, Linear Algebra.

SKILLS

- **Technologies:** .NET, C#, React.js, PHP, Laravel, Python, C++, HTML, CSS, JavaScript, PostgreSQL, MSSQL, Git, OpenCV, Pytesseract, MATLAB
- **Languages:** English (Proficient), Arabic (Native)