Project: Leave Management System (LMS)

Organization: [Company Name]
Role: Software Developer / Full Stack Developer
Duration: [e.g., Jan 2024 – Oct 2025]
Environment: C# Windows Application (.NET Framework 3.5), Visual Studio 2013, SQL Server 2008, ASP.NET, IIS, Database Mail

Description:
Developed a comprehensive Leave Management System to automate employee leave processing, approval, and reporting integrated with attendance and email notification systems.

Responsibilities & Achievements:

- **Designed and developed** the Leave Management System using C# Windows Forms and SQL Server 2008.
- **Created database architecture**, including tables, stored procedures, triggers, and SQL Jobs for attendance and leave posting.
- **Implemented Phase-wise modules** covering leave application, approval, calculation, and auto email notifications.
- **Developed Auto-Mail functionality** in SQL Server (Database Mail) for:
    - New Leave Application notifications
    - Approval/Rejection messages
    - Daily and scheduled leave broadcasting
    - Pre-leave reminder emails (5 days prior)
- **Built user interfaces** for:
    - Leave application, editing, cancellation, and deletion
    - Leave approval (Admin/Department Head) with role-based access
    - Casual leave and regular leave management
    - Employee leave balance and history display
- **Implemented validation logic** to prevent overlapping leave dates and duplicate applications.
- **Integrated with Attendance System** via SQL Jobs for automatic status updates (Present, Leave, Absent).
- **Developed web-based Leave Approval Module** (ASP.NET + IIS) for online approval through secure encrypted links.
- **Configured IIS Server** for hosting the approval web app with link encryption, expiry validation, and secure access.
- **Performed User Acceptance Testing (UAT)**, created user manuals, and documented IIS setup and project deployment steps.

Key Deliverables:

- End-to-end Leave Management automation with desktop and web integration
- Auto email notification and attendance synchronization
- Leave posting and calculation engine for HR reporting

Project: Shop Schedule Optimization

Organization: [Company Name]
Role: SQL Developer / Software Developer
Duration: Jan 2025 – Present
Environment: Microsoft Visual Studio 6.0 (VB 6.0 – Legacy System), SQL Server 2008

Project Overview: Migrating and optimizing the legacy **Shop Scheduling System** (originally developed in Microsoft Visual Studio 6.0 using VB 6.0) into SQL Server by implementing efficient stored procedures for task scheduling, start–end date calculation, and performance optimization.

Key Responsibilities:

- **Analyzed legacy VB 6.0 code** to understand fabrication, forming, post-fabrication, and post-forming schedule logic.
- **Converted VB logic into SQL stored procedures** to handle fabrication and forming task calculations.
- **Developed logic for automatic Start Date and End Date calculation** of each task based on dependencies and process flow.
- **Optimized SQL queries** to improve execution time and ensure accurate schedule generation.
- **Performed testing, verification, and validation** to ensure SQL outputs match the legacy VB system results.
- **Currently working on Post Fabrication Schedule** module for logic migration and optimization.
- **Prepared documentation** detailing schedule flow, logic conversion, and testing results.

Key Achievements:

- Automated task Start and End Date calculation within SQL Server.
- Improved performance and accuracy of schedule generation by eliminating legacy VB dependency.
- Simplified system maintenance through SQL-based centralized logic.
- Enhanced reliability of scheduling data across fabrication and forming processes.

Project: Rolling Machine (Industrial Automation System)

Organization: [Company Name]
Role: Software Developer / Automation Engineer
Duration: [Start Date] – [End Date or Present]
Environment: C# (.NET Framework 4.8.1), WinForms, SQL Server, RS-485/RS-232 Serial

Communication, PLC/VFD Integration
Packages Used:

- EasyModbusTCP v5.6.0
- NModbus v3.0.81
- NModbus.Serial v3.0.81

Project Overview:

Developed an industrial automation system for **monitoring and controlling a metal rolling machine**, enabling real-time communication with Modbus-based devices such as Variable Frequency Drives (VFDs), Remote I/O modules, and Digital Readouts using serial communication over RS-485/RS-232.

Key Responsibilities:

- **Implemented Modbus RTU Master communication** using **NModbus** and **NModbus.Serial** for continuous data exchange with VFDs (read/write frequency, current, and status registers).
- **Integrated EasyModbusTCP** for Remote I/O modules to read digital signals such as direction & start/stop
- **Configured multiple COM ports** to communicate simultaneously with VFDs, DROs, and Remote I/O modules.
- **Designed C# WinForms UI** to display live process data, control parameters, and alarm indicators.
- Used **Timers and background threads** for real-time data polling and synchronization.
- Implemented **data logging and fault diagnostics** for machine performance tracking and troubleshooting.
- **Tested and validated Modbus communication** under different baud rates and device configurations to ensure industrial reliability.

Key Achievements:

- Delivered reliable **real-time automation and monitoring** of rolling machine parameters through Modbus RTU/TCP.
- Reduced manual operations and improved control accuracy by automating frequency, direction, and fault monitoring.
- Enhanced **system stability and maintainability** using structured, modular C# code and optimized SQL logging.

Task : Crystal Reports and Barcode/QR Code Integration

Organization: [Your Company Name]
Role: Software Developer

Duration: [Start Date] – [End Date or Present]
Environment: C# (.NET Framework 4.8.1), Crystal Reports, SQL Server, Bartender Software

Task Overview:

Developed and integrated **Crystal Reports** for generating production and inventory documents with **barcode and QR code printing** functionality using **Bartender software** and **.prn file templates**.

Key Responsibilities:

- **Designed and developed Crystal Reports** for production labels, job cards, and material tracking.
- **Integrated barcode and QR code generation** into Crystal Reports for item traceability and validation.
- **Generated and automated .prn files** compatible with **Bartender software** for direct printing to label printers.
- **Connected reports to SQL Server data sources** for dynamic data retrieval and real-time printing.
- **Tested and validated printed outputs** to ensure barcode/QR readability and layout accuracy.

Key Achievements:

- Automated barcode and QR code printing, reducing manual data entry and labeling time.
- Improved product traceability and shop-floor documentation accuracy.
- Enabled seamless integration between SQL data and industrial label printers.

Project: Single Schedule for Production and Material Planning

Organization: [Company Name]
Role: Software Developer
Duration: [Start Date] – [End Date or Present]
Technologies: C#, .NET (WinForms), SQL Server 2008, Stored Procedures, SQL Triggers, Visual Studio 2013

Description:

Developed and optimized a unified scheduling system to coordinate production and material planning activities, automating approval, testing, and duration management for manufacturing operations.

Key Responsibilities:

- Developed the **Material Approval/Testing Duration module** using **C# WinForms** and **SQL Server 2008**.
- Designed and implemented **stored procedures** and **SQL triggers** to automate testing and quality duration calculations.
- Created UI forms for **material testing duration management**, **production schedule finalization**, and **quality duration adjustments** based on part revisions or specification updates.
- Built a **one-time Excel import utility** to populate master tables in SQL Server, with a **C# UI** for ongoing master data maintenance.
- Automated **production duration updates** during new process setup and ensured dynamic recalculations for modified specifications.
- Performed **testing, validation, and user acceptance** to ensure data accuracy and scheduling consistency.

Outcome:

Improved synchronization between production and material planning teams, reduced manual interventions, and increased scheduling accuracy across the manufacturing process.

Task: Crystal Reports Development

Organization: [Company Name]
Role: Software Developer
Duration: [Start Date] – [End Date or Present]
Environment: C# (.NET Framework 4.8.1), Crystal Reports, SQL Server

Task Overview:

Developed and customized **Crystal Reports** for various production and inventory modules to enhance report presentation, accuracy, and performance.

Key Responsibilities:

- Designed **parameterized and dynamic Crystal Reports** for production summaries, material tracking, and audit logs.
- Integrated **Crystal Reports with C# WinForms applications** for real-time data generation.
- Used **SQL queries and stored procedures** as data sources for optimized performance.
- Enhanced report layouts with grouping, conditional formatting, and calculated fields.

Key Achievements:

- Improved data visibility and reduced manual reporting time.

- Delivered visually consistent and data-driven reports used in shop-floor and management dashboards.

Task: Barcode and QR Code Integration

Organization: [Company Name]
Role: Software Developer
Duration: [Start Date] – [End Date or Present]
Environment: C# (.NET Framework 4.8.1), Bartender Software, SQL Server, PRN Files

Task Overview:

Developed a **barcode and QR code printing solution** integrated with production workflows using **Bartender software** and **.prn file templates**.

Key Responsibilities:

- Created and automated **.prn files** for barcode and QR code label printing through Bartender.
- Integrated C# applications with **Bartender print engine** for on-demand label generation.
- Linked **SQL Server data** to barcode/QR templates for accurate item identification.
- Validated printed labels for **scanner readability and alignment accuracy**.

Key Achievements:

- Reduced manual labeling efforts and improved product traceability.
- Enabled automatic label generation during production and dispatch processes.