Gustavo Miller

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PROFILE

Began my programming career in 1998, working with mainframe systems and evolving alongside technology through continuous learning. While my diploma might not buy me a coffee, the extensive hands-on experience gained over the years has certainly earned me a seat at the table. Throughout this journey, I have demonstrated deep expertise in designing and building business solutions and databases—often reverse-engineering legacy systems to modernize and optimize them for today's technology. I have also transformed flat tables in Microsoft Excel into robust SQL models, incorporating all rules and parameters of database design.

- Designed and developed Windows desktop applications and Office solutions across multiple Microsoft Office versions.
- Built applications in Visual Basic and C# (.NET Framework), ASP.NET Razor Pages (MVC), and CakePHP (MVC), using HTML, Bootstrap 4, CSS, JavaScript/JScript, and JSON/XML.
- Modeled and implemented databases in Microsoft Access, SQL Server (SSMS), and MySQL, including tables, relationships, triggers, and T-SQL scripts.
- Developed ASP.NET applications using Entity Framework (Code-First) with migrations and Microsoft Identity for authentication.
- Produced technical documentation: business specs, database models, UML diagrams, and use cases. Reverse-engineered and migrated legacy systems.
- Deep expertise in VBA -have used it since its inception.
- Worked independently and along with large teams, both on-site and remotely.

EDUCATION

Computer Science Diploma – Lima -Peru (1985)

COURSES

Bootstrap 4 from Scratch – Udemy (09/2020)
Advance ASP.NET Core 3.1 Razor Pages – Udemy (2021)
Bootstrap 4.0 / CSS Courses – On-line Certificates (01/2021)
JavaScript/jQuery – LinkedIn Academy (01/2021)
SQL Server Administration Part 1 – Udemy (11/2022)
Power Apps Complete Guide – Udemy (02/2023)
Master Bootstrap 5 – Udemy (03/2023)
Carleton University – Coding bootcamp (01/2024)
Microsoft Office Open XML Pluralsight.com (10/2025)
Working with Git and GitHub in Visual Studio (10/2025)
ASP.Net Core Web API Fundamentals (10/2025)

ASP.Net Core Web API Deep Dive (10/2025)
Developing an Asynchronous ASP.NET Core Web API (10/2025)

WORK EXPERIENCE

1. New Connections Ministries (NCM)

Systems Analyst / Database Modeler (SQL)
October 2025–now

As is customary during periods between contracts, I dedicate time to enhancing the New Connections Ministries (NCM) website, and pursuing professional development through Pluralsight courses. Recently, I met with the Board of Directors to discuss improvements, and we agreed on a series of updates.

Migrating JavaScript into TypeScript. TypeScript enhances code quality, maintainability, and developer productivity by introducing static typing.

Tasks Included:
- Upgrade to ASP.NET Core 8 to increase performance, security and long-term support (LTS).
- Initiated a DevOps repository to centralize collaboration and code management.
- Implement Continuous Deployment (CD) allowing rapid release cycles assuring consistency.
- Change text contents and removal of unused pages.
- New! Meeting in regards to migrating existing JavaScript into Typescript. Prepare application to migrate. Process to implement is one JS at the time.

2. Shared Services Canada

Senior Systems Analyst / Database Modeler (SQL)
April 2025 – October 2025 (7 Months)

Joined the Strategic Engagement Branch. Lead the transformation of Shared Services Canada to align with the SSC 3.0 vision, priorities, and objectives. Refactor the Project Control Workbook (PCW) and the Task and Financial Authorization (TFA) Excel driven applications into modern platform and technology, using Power Apps and Power Automate Flows.

Application to be used by 300+ users from Strategic Engagement Branch and partners.

Tasks Included:
- Conduct comprehensive review -migrate to PowerApps, of two legacy Excel applications: Task and Financial Authorization (TFA) and Project Control Workbook (PCW).
- Review code written in Visual Basic to convert were possible to Power Fx.
- Create Flows to streamline data retrieval and automate business processes.
- Design Power Apps canvas application for forecasting and financial data entry.
- Analyze existing Power Query transformation logic, Service Line Coding, Resource Rates, Branch Lists, CATs Data, and Resource Lists. Modify the M-code to change some of the columns to abide to database standards.
- Evaluate Excel formulas to identify entity dependencies and define calculated fields; design master tables for TFA and PCW modules.

- Architect a relational database model in Microsoft SharePoint / Dataverse, include relationships and indexing to ensure performance, referential integrity and scalability.
- Create Power Automate Flows with pagination and incremented threshold for large tables over 100K records.

3. Department of National Defense (DND)

Senior Business Analyst – Database Modeler (SQL)
August 2023 – February 2025 (19 month)

Collaborated with the Director of Application Management, Integration, and Innovation to support evolving development needs. Delivered targeted enhancements to the legacy Quality Assurance Information System (QAIS), application built on ASP.NET 4.0 MVC and Azure database.

Tasks Included:
- Refactored SQL database by implementing missing relationships and enforcing referential integrity, which reduced data inconsistencies by 100% and enhanced data reliability.
- Enhanced database querying performance by adding indexes and optimizing queries, improving query speeds by 70% and streamlining data access.
- Implemented Entity Framework (EF) ORM, enabling .NET databases model validation and eliminating 100% data injection vulnerabilities.
- Implement Entity Framework (EF) object-relational mapper (ORM), this would developers to interact with databases using .NET objects instead of raw SQL.
- Modernized application architecture with multi-tier architecture (separation of concerns) and unit of work patterns, improving system stability, maintainability and scalability.
- Automated tasks and notifications by triggering SQL stored procedures using Power Automate, saving time in manual processing and improving data accessibility.
- Enhanced data delivery and reporting by implementing Office Open XML (OOXML) for word-processing and spreadsheets, enhancing reports generation. Use Visual Basic for Application to handle large sets of data.

4. New Connections Ministries (NCM)

Senior Business Analyst / Database Modeler
Member of the Board of Directors
July 2023 – August 2023 (2 Months)

Continue with ongoing development and enhancement of web application. Focused on expanding core functionality, optimizing data integration workflows, and streamlining intake processes to improve operational efficiency. Spearheaded the creation of a new online Intake Application form for individuals seeking assistance, including the design of supporting database tables.

Tasks Included
- Multi-tier architecture with Separation of Concerns and Unit of Work and Repository patterns.
- SQL Server 2019 with Fluent API and Data Annotations, updated and integrate EF mappings. Applied relational constraints (PKs, FKs) and configuration rules.
- Implemented SQL Database Email for error reporting.
- Create the Intake Application form, added pertaining tables.
- Used OpenXML to generate structured intake documents.

5. Shared Services Canada (SSC)

Senior Business Analyst / Database Modeler
Top Secret Clearance – Classified
February 2023 – July 2023 (6 Months)

Joined the Project Management Center of Excellence (PMCE) to support the development Lessons Learned Application interface. PMCE assists various government departments in managing their project processes, particularly in collecting and documenting experiential knowledge in a centralized cloud database. Data stored mainly in Excel files, for local and internal processing.

The primary goal was to migrate data into SQL Server on Azure and make it accessible through a front-end application, enabling broader access and improved data management.

Tasks Included:
- Analyze existing data stored in multiple Excel Workbooks across different departments.
- Amalgamate excel data and perform a data migration to Azure SQL Cloud Server.
- Normalized database and restructured components, enforcing relational integrity and improving data reliability, resulting in 70% reduction in access time.
- Designed and implemented Azure SQL Database, creating tables, fields, indexes, relationships, and data constraints.
- Developed a prototype application for the Lessons Learned Master Database in Microsoft PowerApps, targeting 300 initial users. Clean and shape data in Power Query or Dataflows, schedule extracts with automated flows.
- Created new Power BI report with a bilingual interface to filter Lessons Learned, enhancing data visualization.
- Reviewed existing processes and prepared documentation, generating diagrams and use cases.
- Automated data retrieval by programmatically extracting data from different sources. Most of methods handle in Visual Basic for Applications.
- Lessons Learned application still currently in use by many departments not limited to Shared Services Canada.

6. New Connections Ministries (NCM)

Senior Business Analyst / Database Modeler
Member of the Board of Directors
September 2022 – January 2023 (5 Months)

New Connections Ministries (NCM) is a faith-based organization focused on outreach and community support. It is dedicated to helping men in crisis, guiding them toward a faithful journey to become the man God intended them to be.

The site was first upgraded to ASP.NET and later reengineered using ASP.NET Core Razor Pages with a modern front-end built on Bootstrap 4.0. The back end was redesigned with SQL Server and integrated ASP.NET Core Identity for secure authentication and authorization.

Tasks Included:
- Modernized legacy ASP.NET web application to ASP.NET Core Razor Pages with Bootstrap 4.0, increasing design standards and community visibility.
- Redesigned SQL Server database with optimized schema and reCAPTCHA integration, enhancing security by 90%.

- Implemented ASP.NET Core Identity for secure authentication and role-based access control, securing users accounts.
- Streamlined data access using Repository and Unit of Work patterns with EF Core, enhancing data access.
- Deployed application to Windows Server 2016, SQL Server database 2019 and IIS 10.
- Enhanced data model using LINQ, Fluent API, and IValidatableObject, improving data validation.

7. Shared Services Canada (SSC)

Systems Analyst / Senior Developer / Database Modeler
Top Secret Clearance – Classified
March 2021 – September 2022 (19 Months)

Joined the Network and Security Services – Business Intake Management and Service Delivery Coordination group to help redesign and enhance their Business Request Costing (BR Costing) process. Migrate process managed in Excel, gather data from various Service Data Management (SDM) sources.

The project then evolved into a full web-based solution. The tracking sheets were successfully migrated into a new application developed using PHP with the Cake-PHP framework. The back-end was built on MySQL Oracle, hosted in Microsoft Cloud. Version control and deployment were managed through Azure DevOps.

Tasks Included:
- Daily Scrum meetings with client, review progress of requirements and enhancements.
- Designed BR Costing and Network Trackers Microsoft Access database client application.
- Enhanced database integrity by upscaling Microsoft Access databases to SQL Server 2012-2016, normalizing 85 tables and enforcing relational integrity.
- Automated data retrieval by programmatically extracting data from the JIRA Enterprise database and updating database daily, adding value to the BR Costing process.
- Streamlined data management by migrating Microsoft Access data to Microsoft SharePoint, integrating it with the existing BR Costing tool. Process to manipulate data done using Visual Basic for Applications.
- Designed and developed the BR Costing and Network Trackers database Access application, integrating it with Excel and SharePoint to support 120+ users.
- Participated in the migration and development of the web-based solution, leveraging PHP with Cake-PHP, MySQL Oracle, and Azure DevOps, enabling data accessibility for XX users across the department.

8. Department of National Defense (DND)

Systems Analyst / Senior Developer / Database Modeler
Secret Clearance – Protected B
February 2017 to February 2021 (49 Months)

Joined the COS/VCDS Administration department to redesign their existing Business Planning database. The original tool was developed in Microsoft Access using the native Jet Engine and VBA (Visual Basic for Applications). It is used by various organizations within VCDS to control and track fund allocations for their corresponding Tasks, Activities, and Sub-activities. The database was upgraded to SQL Server 2012 in 2019.

Called back in March 2022 to September 2022 (Part Time limited hours)
Requirements – DGMEC Pilot Product Performance Database:

The client requested interface enhancements to improve flexibility. This included implementing the standard Ribbon UI using XML for configuration, and embedding help features using HTML, JavaScript, and web controls.

Tasks Included:
- Redesigned DGMEC's business planning database, migrating from Microsoft Access to SQL Server 2012, supporting fund allocation tracking for 250+ users across VCDS organizations.
- Refactored DGMEC's database, transitioning from Access to SharePoint using modular Table List components, achieving 80% reduction in data redundancy.
- Normalized database design, enforcing relational integrity, and add business rules to eliminate redundancy.
- Implemented interface enhancements, integrating Ribbon UI with XML and embedded help features, resulting in 100% increase in user satisfaction.
- Developed Excel/Word macro templates for reporting and data entry, streamlining data management processes and saving considerably number of hours per week.
- Overcame primary key generation challenge, maintaining existing project IDs during data updates to prevent user confusion and preserve reporting accuracy.

9. Transport Canada – Aviation Security

Systems Analyst / Senior Developer
Top Secret Clearance – Classified
December 2016 to January 2017 (2 Months)

Continue with Transport Canada Aviation Security Operations team to develop the Airport Security Risk Management Tool. Goals, to complete and enhance existing applications.

Tasks Performed:
- Implement mechanism to update Aerodromes Workbooks, confidential information.
- Fix bugs and implement new features to the several existing Wizards.
- Implement bilingual interface English-French reports.
- Separate Custom XML Parts using MS Forms 2.0 to enhance maintenance.
- Redesign CustomUI implement menu controls and control actions via call-backs.
- Secure exchange data between Excel, Word and PowerPoint, using digital signatures.
- In Memory-dataset for data sorting and filtering.
- Update code using XLAM AddIN code without disrupting client's sensitive information.
- Extensive use of Extensibility 5.3 reference to handle code replacement at Runtime.

10. International Development Research Center (IDRC) (Ottawa – Ontario)

Systems Analyst / Senior Developer
Secret Clearance - Classified
September 2016 to November 2016 (3 Months)

Developing the Grant Administration Workbook developed to control Grants given to third World Countries. Manage Budgets, Expenses, Payments and disbursements of money. Generate a Macro-less

version of their Budget registry and subsequent Financial Reports workbook. Applications were developed using Visual Basic for Applications (VBA).

Tasks Performed:
- Implement new procedures to produce Client Budget workbook template.
- Read Client information into Financial Workbook Master using new procedures.
- Financial Reports Export/Import processes based on grant reporting cycles.
- In-Memory Database Tables for indexing and sorting using ADODB.
- Store System information using XML structured documents.
- Implement new UI RibbonX definitions.

11. Transport Canada – Aviation Security (Ottawa – Ontario)

Systems Analyst / Senior Developer
Top Secret Clearance – Classified
April 2016 to July 2016 (4 Months)

Continue with Transport Canada Aviation Security Operations team to develop the Airport Security Risk Management Tool. Application was developed in Microsoft Office 2013 (Excel/Word/Access) using Office. This tool was specifically designed to handle classified information and to be used by both Government and Aviation Industry partners.

Tasks Performed:
- Implement new enhancements and changes based on the experience gained in Ottawa aerodrome.
- Upgrade Access database to SQL Server 2012. Migrate tables and relationships. Implement LOG files into separate storage.
- Normalized relational databases by structuring tables, indexes, relationships, and constraints; implemented stored procedures and both scalar and able-valued user-defined functions to enhance data integrity and performance.
- Implement new features needed. The application was tagged as classified once with data. Not able to share much about the details of the application.
- Implement reports in Microsoft Word -report created programmatically using Microsoft Office 14 Object Libraries and Visual Basic for Applications VBA scripts (code).
- Add new Risk Management wizards to gather security information.
- Add data encryption module.

12. Foreign Affairs, Trade and Development Canada (DFATD) (Ottawa – Ontario)

Systems Analyst / Senior Developer
Enhance Clearance
January 2016 to March 2016 (3 Months)

Join their team to develop and enhance the already existing Fiduciary Risk Management Tool (FRET) to meet new requirements in the area of Recipient Organization and Project risk information. The FRET has been developed in Excel 2003 by their Financial Management to collect detailed evaluation-criteria-based risk information on all Gs&Cs funding Recipient Organizations and Projects. Export data into Microsoft Access database to produce complex financial reports.

Tasks Performed:

- Daily Scrum meetings to review tasks and progress reports, cross-functional goals alignment.
- Review progress reports, clarity and alignment with business objectives.
- Evaluate existing method -identify strengths, deficiencies and areas of improvement.
- Led the implementation of new RTM (Requirements Traceability Matrix) sections
- Designing Excel sheets to enhanced tracking requirements and deliverables.
- Structured, scalable, and query-efficient data handling using XML structures.

Technical Summary

Programming & Scripting Languages
- C# 10.0, Visual Basic, VB Scripting
- VBA 6.0 (Office Automation), VSTO 2007/2010
- JavaScript, HTML5, CSS3

Development Tools & Environments
- Visual Studio (2005–2022), Crystal Reports (2005/2008)
- Git, GitHub, GitBash, Azure DevOps
- Visual Studio Team Foundation Server
- Swagger

Database & Cloud Platforms
- Microsoft SQL Server (2003–2019), Microsoft Access (97–2019)
- Microsoft Azure Cloud Platform
- Microsoft Power Apps, Power Automate (Flow 365)

System & Office Support
- Microsoft Windows (NT/95/2000/XP/7)
- Microsoft Office Suite (2000–2019)

Design & Architecture Techniques
- Object-Oriented Analysis & Design
- Structured Analysis & Design
- Data Modeling, Entity Framework (Code First & Migrations)

Web Development
- ASP 3.0 Classic, ASP.NET 3
- ASP.Net Core 7/8/9 MVC, ASP.Net Core
- HTML, CSS, JavaScript
- ASP.Net Core 8 MVC API / Swagger

LinkedIn Articles – Personal Journey

As part of my self-promotion strategy, I've started sharing short articles on LinkedIn. While I'm not a professional writer, I am a developer with years of experience working across both legacy and modern technologies. Writing helps me showcase what I do and share insights from the projects I work on—especially when I learn something new that might help others.

Building My First ASP.NET Core 8 API
Developing an Asynchronous ASP.NET Core Web API
Blueprints and Roadblocks: My Power Apps Story
To Copilot or not to Copilot
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