

Kouider Bakhti

Enterprise Application Modernization Engineer

C++ • Windows Applications • Cloud Migration • Software Architecture

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Portfolio: www.kouiderbakhti.com

Engineering Motto

Modernizing business-critical software while preserving the value organizations have already built.

Executive Profile

Senior C++ Software Engineer specializing in enterprise application modernization, Windows desktop development, and business-critical software systems. Extensive experience designing, developing, maintaining, and evolving enterprise applications built with C++, MFC, ODBC, SQL, and relational databases across scheduling, customer management, payroll, human resources, accounting, inventory, reporting, and operational workflows.

Throughout my career, I have helped organizations extend the value of proven software by improving reliability, maintainability, and scalability while protecting daily business operations. Today I combine deep Windows application experience with modern engineering practices—including REST APIs, Python, FastAPI, PostgreSQL, Microsoft Azure, Docker, Git, and CI/CD—to guide applications toward API-driven, cloud-ready architectures through practical, incremental modernization.

Core Engineering Capabilities

- Enterprise Application Modernization — Assess existing systems and design phased modernization strategies that protect business continuity.
- C++ & Windows Engineering — C++, MFC, Win32, Visual Studio, object-oriented design.
- Database Integration — ODBC, SQL, Microsoft Access, MySQL, PostgreSQL.
- Business Software Engineering — CRM, scheduling, memberships, payroll, HR, accounting, inventory, reporting.
- API & Cloud Evolution — REST APIs, FastAPI, Docker, Microsoft Azure, CI/CD.
- Technical Leadership & Customer Collaboration — Translate operational requirements into maintainable software.

Signature Business Software Platform

Enterprise Business Management Platform

Designed, developed, and continuously evolved a Windows-based enterprise business platform supporting wellness centers and service organizations. Built using C++, MFC, ODBC, and relational databases, the platform integrated CRM, appointment scheduling, memberships, payroll, inventory, reporting, and operational workflows into a unified business management solution.

Rather than replacing the system as technology evolved, I continuously modernized the platform by improving architecture, expanding functionality, integrating new business processes, and preparing the software for future web and cloud-based evolution.

Engineering Highlights

- Designed enterprise Windows desktop applications using C++, MFC, and object-oriented design.
- Built modular business software supporting mission-critical daily operations.
- Designed relational database integration using ODBC and SQL.
- Refactored software architecture to improve maintainability and extensibility.
- Planned API integration and cloud migration strategies.

Professional Experience

The following chapters illustrate the continuous evolution of my engineering career—from enterprise software foundations through distributed systems, business platform development, and enterprise application modernization.

Chapter One

Enterprise Application Modernization

Independent Software Developer / Enterprise Application Modernization Engineer (2026–Present)

Mission

Architect modern solutions that extend the value of established business applications by integrating cloud technologies, APIs, artificial intelligence, and modern software engineering practices.

Engineering Impact

Architected enterprise application modernization strategies that extended the value of established software while preparing systems for cloud-native evolution.

Designed REST APIs using Python and FastAPI to extend traditional desktop applications.

Designed PostgreSQL database solutions supporting scalable business services and API-driven applications.

Designed and evaluated cloud-ready deployment strategies using Microsoft Azure and Docker.

Applied artificial intelligence services to automate customer engagement workflows and improve operational efficiency.

Produced Executive Architecture, AI Workflow, Deployment Architecture, Security Architecture, and Architecture Decision Records (ADRs) supporting long-term software evolution.

Chapter Two

Enterprise Business Platforms

Founder, Software Architect & Lead Developer — WebTek Global Solutions (2004–2026)

Mission

Design and continuously evolve business software that improves operational efficiency while adapting to changing technologies and customer needs.

Engineering Impact

Designed and developed integrated enterprise business platforms supporting CRM, scheduling, memberships, payroll, accounting, inventory management, reporting, and customer operations.

Refactored software architecture across multiple product generations while preserving customer investments and minimizing operational disruption.

Integrated relational databases supporting secure and reliable business operations.

Guided customers through software evolution, feature expansion, and technology modernization.

Planned migration strategies toward service-oriented and cloud-ready architectures.

Chapter Three

Technology Leadership Through Operations

Managing Member / Technology Director — Terra Spa LLC (2014–2026)

Mission

Apply software engineering principles to modernize business operations through technology, automation, and cloud services.

Engineering Impact

Directed technology strategy supporting business operations, customer engagement, infrastructure, and long-term modernization initiatives.

Managed business applications, websites, networking, and operational technology infrastructure.

Evaluated cloud migration strategies using Microsoft Azure.

Improved customer communication through automation and digital services.

Applied software engineering principles to solve operational business challenges.

Chapter Four

Distributed Systems Engineering

Software Developer — Network Solutions (2001–2003)

Mission

Develop distributed communication software supporting remote monitoring and mission-critical infrastructure.

Engineering Impact

Developed embedded C++ software supporting wireless monitoring systems.

Designed distributed communication components for remote highway camera infrastructure.

Contributed to real-time communication software supporting mission-critical distributed systems.

Contributed to reliable distributed systems through architecture and systems integration.

Chapter Five

Enterprise Software Foundations

Software Development Engineer — ERCO Algeria (1992–1997)

Mission

Develop enterprise software supporting large-scale organizational operations.

Engineering Impact

Designed enterprise payroll systems supporting approximately 6,000 employees across large-scale organizational operations.

Developed human resources and accounting applications.

Implemented enterprise database solutions supporting operational reporting.

Automated critical business workflows, reducing manual processing and improving organizational efficiency.

Education & Engineering Foundations

Master of Software Engineering

Université du Québec à Montréal (UQAM), Montréal, Canada

Graduate research focused on Voice over IP (VoIP), distributed systems, real-time networking, software architecture, and object-oriented engineering.

Bachelor of Software Engineering

Djillali Liabès University, Algeria

Senior Engineering Project: Speech Recognition Using Hidden Markov Models (HMMs).

Engineering Philosophy

I believe successful software modernization begins with understanding the value that existing systems already provide. Technology should evolve in a way that protects business continuity, preserves organizational knowledge, and creates opportunities for future innovation.

The best engineering solutions do more than replace technology—they preserve business value, reduce risk, and create a sustainable foundation for future growth.

Professional Engineering Portfolio

Engineering Library

- Executive Architecture
- Enterprise Application Modernization Strategy
- Artificial Intelligence Workflow Architecture
- Deployment Architecture
- Security Architecture
- Architecture Decision Records (ADRs)
- Knowledge Center
- GitHub Engineering Repository

Every engineering claim presented in this resume is supported by publicly available

architecture documentation, engineering artifacts, and source code that demonstrate the design, implementation, and evolution of enterprise software systems.

Technical Environment

Languages: C++, Python, C#, Java, SQL

Windows: MFC, Win32, Visual Studio

Databases: ODBC, PostgreSQL, MySQL, Microsoft Access

Cloud: Microsoft Azure, Docker, REST APIs, Git, CI/CD

Artificial Intelligence: OpenAI APIs, FastAPI, Workflow Automation

Professional Closing

Engineering is not only about creating new software—it is about preserving business value, reducing risk, and helping organizations confidently evolve the systems they already depend on.

Modernizing business-critical software while preserving the value organizations have already built.