

Timothy M McGrath

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Solutions Architect • Digital Technology Transformation • Technical Program Management

SUMMARY OF QUALIFICATIONS

An innovative, **senior-level IT product leader** with over 20 years of progressive **software engineering** experience **supervising global teams** for a Fortune 100 company. Credited as a catalyst for change, driving multimillion-dollar enterprise infrastructure modernization, database management, and workflow automation.

Proficient in **solution architecture**, aligning technical products that meet business requirements. Leverages keen organizing skills to **balance multiple projects** and **priorities** simultaneously in the face of ambiguity. Committed to ongoing professional development by proactively staying current with AI and emerging compliances and technologies.

An **influential communicator** who can simplify complex technical information to effectively **mentor** junior developers and **collaborate** with cross-functional project teams, customers, dealers, executives, and platform vendors.

Additionally, possesses over 10 years of experience in the following processes:

- **Back and Front-End Application Development**
- **Agile and Scrum Methodology**
- **Enterprise IT Service Management**
- **Microservice Architecture**
- **RESTful API Patterns and Machine Learning Algorithms**
- **Design / Code Reviewing and Quality Assurance**
- **Software Development Life Cycle (SDLC)**
- **Synchronous / Asynchronous Design Principles**
- **Backlog Refinement and Release Planning**
- **Object-Oriented Programming**
- **SaaS / PaaS and Cloud Integration**
- **Artificial Intelligence (AI) Enablement**
- **Testing, Validating, and Troubleshooting**
- **AWS Cloud Services**

Software platforms, systems, and services:

C++ | C# | .NET | Java | Python | Entity | HTML 5.0 | IoT | Angular | Snowflake
SQL DB (SQL Server | PostgreSQL | Oracle) | NoSQL DB (MongoDB, DynamoDB, Redis)
AWS Cloud (EC2, ALB, EKS, RDS, SNS, SQS, AMQ, EFS, FSx, S3, CloudFormation, CloudWatch, Kubernetes)
Azure Cloud (Service Bus, Azure SQL, Document DB, AppInsights, Azure DevOps)
Microsoft (Windows, Project, Office 365, SharePoint) | Jira | Confluence | ServiceNow

PROFESSIONAL EXPERIENCE

Caterpillar, Inc., Englewood, CO / Peoria, IL

Technology Manager / Digital Operations & Support - (Remote Fleet Vision) | 09/2019 to 10/2025

- Oversee a global customer facing telematics platform providing asset health, fleet monitoring, events, diagnostics, and site productivity for Caterpillar's Energy and Transportation customers and dealers.
- Train and supervise an international enterprise team (U.S., Europe, and India) consisting of Tier 3 product support and DevOps engineers. Facilitate service contracts and adherence to legal compliance.
- Administer digital platform operations and infrastructure for Caterpillar's Oil / Gas and Marine Divisions. This includes cloud infrastructure, database administration, deployment scheduling, system monitoring, and incident management.
- Navigated two major platform migration projects to AWS Cloud, along with integrating internal, third-party, and customer ERP systems.
- Led the integration of a marine vessel engine monitoring and analytics platform (CAI) leveraging Kubernetes and PostgreSQL. This included a vessel tracking platform (Trident) with a third-party API provider (Vessel Tracker) to drive dealer lead generation.

- Delivered quality and performance improvements to a customer API to support their fleet of 2500 hi-frequency devices.
- Navigated the merger of two digital teams across the Oil & Gas and Marine divisions. Responsible for four direct reports, two contracted workers, and an intern.
- Managed vendor relations with a Denver-based datacenter / cloud provider (Flexential).

Technical Lead / Senior Digital Technical Specialist - (Telematics data hub) | 12/2017 to 09/2019

- Led in the creation of a new digital data hub in AWS cloud. Served as cloud architect and technical team lead and mentor for an offshore team consisting of five developers and two quality assurance engineers.
- Implemented performance improvements to the Cat digital platform productivity APIs, consisting of over 20 API endpoints. Expedited functional testing to improve unit coverage and code quality.

Senior Software Design Engineer - (Cat Connect Digital Services) | 11/2013 to 12/2017

- Oversaw the architecture, development, and support for Caterpillar's Telematics cloud enabled asset registration platform, supporting nearly two million assets and devices.
- Developed a new registration message ingestion system utilizing MS Azure and an SQL Server database. Additionally, incorporated Azure cloud services for logins, events, and reporting metrics, and Pub-Sub patterns using Azure service bus.
- Mentored offshore junior developers on system processes, design, and coding.

IT Analyst / Lead Developer - (Global Information Services) | 12/2007 to 11/2013

- Architected, developed, and tested the Product Software Programming System (PSPS) factory client interface. This was used in manufacturing facilities worldwide to automate programming and configuration of electronic control modules during machine and engine assembly.
- Led four major installation and upgrade projects across Caterpillar facilities worldwide that included the Seguin, TX engine facility and plants in Greenville, SC, Gosselies, Belgium, and Larne, United Kingdom.
- Completely re-architected the Factory Configuration Client, migrating from a legacy C++/windows app to .NET with a web front end.

Development Engineer - (Cat Electronics) | 10/2000 to 12/2007

- Designed and implemented features for Caterpillar Electronic Technician (ET) service tool, a PC based application used to interface directly with Caterpillar machines, used at dealerships worldwide.
- Responsible for ComET development and factory support
- Responsible for maintenance and development of ET Flash Server and RUFUS ECM simulator.

PROFESSIONAL CERTIFICATIONS

AWS Certified Solutions Architect Associate, 2025

AWS Certified AI Practitioner, 2025

SAFe Certified Scrum Master, 2018

EDUCATION

Bradley University | **Bachelor of Science in Computer Science**