

JAMES F. CUSHMAN

Founder | Product Architect | Software Developer

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Summary

Product Architect and Software Developer with a proven track record of designing and delivering software solutions that solve complex business challenges. Experienced across the full software development lifecycle—from product architecture and systems design to development, deployment, and long-term support. Passionate about building intuitive, scalable software by combining product architecture, software engineering, user experience, and systems thinking.

Combines enterprise software development, manufacturing systems integration, and product strategy with experience leading projects from concept through implementation. Recognized for translating complex technical problems into practical, user-centered solutions that improve efficiency, streamline operations, and deliver measurable business value.

Core Competencies

- Product Architecture & Solution Design
- Software Architecture & Systems Design
- Full Software Development Lifecycle (SDLC)
- Software Engineering & Application Development
- Systems Integration & Process Automation
- Enterprise Application Architecture
- User Experience (UX) & Human-Centered Design
- Requirements Analysis & Technical Specifications
- Cross-Functional Leadership & Stakeholder Collaboration
- Technical Documentation & Knowledge Transfer
- Manufacturing Systems & Digital Transformation
- Continuous Improvement & Root Cause Analysis

Technical Proficiencies

Programming & Scripting

VB.NET • C# • Python • PowerShell • JavaScript • PHP • SQL

Databases

MySQL • Microsoft SQL Server • DBeaver • MySQL Workbench

Web & Software Development

WordPress • HTML • CSS • REST APIs • User Experience (UX) • Responsive Design • Custom Theme Development • Git • Software Testing & Debugging

Architecture & Systems

Product Architecture • Software Architecture • Enterprise Application Architecture • Systems Integration • Process Automation • Manufacturing Systems • MTConnect • OpsVision

Design & Engineering

Fusion 360 • CAD Design • 3D Printing • Rapid Prototyping • Technical Documentation

Professional Strengths

Strategic Thinking • Systems Thinking • Product Development • Technical Leadership • Mentoring • Business Process Improvement • Customer-Focused Solution Design • Continuous Improvement

Professional Experience

GE Aerospace, Wilmington, NC

Applications Operations Engineer

March-2021 – July 2025

GE Aerospace is a world-leading provider of jet engines, components, and integrated systems for commercial and military aircraft. GE Aerospace has a global service network to support these offerings.

- Designed, coded, evaluated, and deployed custom software applications supporting manufacturing and business operations.
- Conducted requirements analysis with stakeholders and translated business needs into documented technical specifications.
- Developed and maintained applications using **VB.NET, Python, PowerShell, C#, JavaScript, SQL, and MySQL**.
- Wrote, reviewed, debugged, and optimized code to ensure reliability, performance, and maintainability.
- Modified software specifications throughout the production lifecycle to support evolving operational requirements.
- Built and supported cross-site applications deployed across multiple facilities, improving defect tracking and operational visibility.
- Integrated real-time manufacturing data sources (**OpsVision, MTConnect**) into software solutions.
- Provided user training, application documentation, and ongoing mentoring to users and technical staff.
- Provided technical guidance and informal mentoring to users and team members during application development and deployment.
- Supported production systems post-deployment, troubleshooting issues and delivering iterative improvements.
- Utilized **Fusion 360** and 3D printing to design and prototype fixtures, system enclosures, and proof-of-concept components supporting IT and manufacturing initiatives.

GE Aerospace, North Clarendon, VT

IT Systems Administrator

January-2019 – March 2021

- Supported enterprise and manufacturing IT systems, coordinating with remote IT teams and contract service providers to ensure reliable operations.
- Developed internal applications and automation scripts to streamline system imaging, deployment, and ongoing support processes.
- Assisted with application implementation, testing, and production rollouts using structured methodologies, including **DMAIC**.
- Served as the primary IT point of contact for shop floor personnel, providing day-to-day system support and user assistance.
- Diagnosed and resolved hardware, software, network, and application defects impacting production environments.
- Developed technical documentation and training materials and delivered hands-on training sessions for new and existing IT and shop floor applications.

GE Aerospace, North Clarendon, VT

Manual Machinist/Inspector

August-2016 – January-2019

- Supported manufacturing systems by machining and inspecting precision components using CNC and manual equipment.
- Utilized PC-DMIS and CMM systems to validate dimensional accuracy and ensure compliance with specifications.
- Built and validated fixtures and gages to support production and inspection systems.
- Verified functionality using master parts and completed final inspections prior to release to gage control.

GE Aerospace, North Clarendon, VT*Toolmaker and Machinist Apprentice Program*

July-2013 – August-2016

- Interpreted engineering drawings and performed precision measurements in support of production systems.
- Utilized Unigraphics (NX) and Fusion 360 for design improvements, tooling concepts, and engineering fixes.
- Completed complex CNC setups and collaborated with engineering and safety teams.
- Key Projects:
 - Designed the LPT Universal Fixture.
 - Designed a carrier rack for the LPT Fluorescent Penetrant Inspection (FPI) line.

Westminster Cracker Company, Rutland, VT*Production/Operations Manager*

November-2010 – July-2013

The Westminster Cracker Company is a historic New England manufacturer established in 1828 and recognized nationally for its oyster crackers.

- Managed daily operations, scheduling, and personnel in a production environment.
- Supported operational systems by improving workflows, equipment utilization, and compliance processes.
- Developed work instructions and enforced safety and quality standards

Floor Craft, Rutland, VT*President and Owner*

January-1994 – November-2009

Sales, installation, and services for flooring products to residential and commercial customers.

- Owned and operated a small business, managing sales, budgeting, scheduling, and personnel.
- Implemented job tracking, cost estimation, and inventory management processes.

United States Army Reserves, West Chester, CT*Officer in Charge of Training/Retention*

May-2000 – June-2005

The Army Reserve provides a complementary role to the Active Army component giving combat support and combat service support functions.

- Managed training operations and personnel for a 30-member unit.
- Developed training databases to ensure accurate certification and compliance tracking.
- Streamlined processes and improved system readiness for training operations.
- Recognized by the 405th Major General for exceptional logistical leadership during annual training operations.

Education & Training

Education:

- A.A.S. General Engineering Technology, *Vermont Technical College*, 2016, GPA 3.70
- B.S. Computer Information Systems, *Castleton University*, 2002, GPA 3.56

Professional Training:

- *North American Electric Reliability Corporation Certification (NERC)*
- SOS International energy professional training.
- Army Basic Training, Advanced Individual Training, Peer Leadership and Development Course and Basic Non-Commissioned Officer Course
- OSHA - General Contractor Certification
- VMEC: Principles of Lean Manufacturing, 5S Systems, Structured Problem Solving
- Apollo Root Cause Analysis Facilitator

Honors & Awards

Honors:

- *Phi Eta Sigma*: National Honor Society for four years of college
- *Cum Laude*: Castleton College

Awards:

- Received the Army Commendation Medal (ARCOM) for support of Operation Enduring Freedom during the Global War on Terror.
- Received Army Commendation Medal (ARCOM) for Operation Golden Medic '04, which is the Army Reserves largest peacetime medical exercise done annually.
- GE Above & Beyond Awards