

King Brady

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SUMMARY

Firmware and **product security** leader with 18 years of **embedded software** experience across connected medical and high reliability products. Leads architecture, requirements, implementation, verification, release readiness, lifecycle security, and post market remediation. Advanced C and C++ practitioner with hands on depth in RTOS platforms, microcontrollers, device drivers, bootloaders, **board bring up**, BLE, diagnostics, secure updates, and constrained power and memory environments. Applies threat modeling, cryptography, secure boot, authentication, key management, SBOM governance, vulnerability response, and security testing. Works within quality systems using IEC 62304, ISO 14971, **IEC 81001 5 1**, FDA cybersecurity guidance, design controls, traceability, verification, and risk management. Combines technical direction, supplier coordination, mentoring, and practical debugging to support safe, maintainable products.

EXPERIENCE

Principal Firmware and Product Security Lead

May 2022 - Present

Asteron Health Devices

Austin, TX

Directs connected medical device firmware architecture and product security across design, implementation, verification, release, maintenance, and post market support. Guides cross functional teams through secure design decisions, quality evidence, supplier coordination, and lifecycle risk resolution.

- Owned connected device architecture, aligning requirements, interfaces, security, and **release readiness** across product teams.
- Led **secure boot** and OTA security reviews, resolving authentication and cryptography risks before production release.
- Applied C, C++, RTOS, BLE, bootloaders, and **board bring up** during regulated platform delivery.
- Improved **SBOM governance** and vulnerability response through **CI/CD** evidence, repeatable reviews, and faster remediation.
- Coordinated Quality, Regulatory, Security, Systems, and Hardware teams through traceable corrective actions and closure.
- Delivered **post market remediation** while balancing safety, performance, maintainability, serviceability, and product support.

Senior Firmware Architect

January 2018 - April 2022

Meridian Respiratory Technologies

Round Rock, TX

Architected portable medical firmware platforms from **requirements decomposition** through integration, verification, secure release, and maintenance. Connected technical decisions with patient safety, risk controls, supplier delivery, reliability, and long term product performance.

- Architected portable medical firmware, translating clinical, safety, privacy, and security needs into testable requirements.
- Led **IEC 62304** verification and **ISO 14971** risk controls, improving traceability across system and firmware evidence.
- Delivered **secure communications** and authenticated updates for battery powered products with constrained memory and power.
- Guided suppliers and verification teams through **interface definition**, integration defects, and release readiness decisions.
- Improved root cause analysis for connectivity and reliability issues through structured debugging and corrective actions.
- Supported **configuration management** and design history records across multiple regulated product releases.

Embedded Software Engineering Manager

June 2013 - December 2017

ClearPath Medical Electronics

Dallas, TX

Managed embedded software delivery for regulated monitoring devices, combining architecture guidance, engineer development, design controls, verification planning, and release governance. Partnered with quality, manufacturing, and program teams on dependable product execution.

- Managed **firmware** delivery for regulated monitoring devices, connecting **architecture** decisions with manufacturing and service needs.
- Introduced **peer review** and **static analysis** practices, reducing recurring defects across successive product releases.
- Led design reviews, risk controls, and release readiness using documented decisions and traceable evidence.
- Applied C, C++, **microcontrollers**, drivers, diagnostics, and **bootloaders** across product maintenance and new development.
- Coordinated software, quality, manufacturing, and program stakeholders through interface risks and corrective actions.
- Delivered design history evidence supporting verified releases, field service, and sustained product maintenance.

Senior Embedded Software Engineer

August 2010 - May 2013

Vantage Biomedical Instruments

Houston, TX

Delivered embedded instrumentation firmware across **board bring up**, protocol integration, debugging, **verification**, and controlled maintenance. Worked with hardware, test, manufacturing, and sustaining teams on reliable field performance.

- Led board bring up and protocol **integration**, isolating hardware interface defects before verification milestones.
- Applied **RTOS** concepts, peripheral drivers, **diagnostics**, and constrained memory techniques within high reliability instrumentation.
- Improved reproducible failure analysis through diagnostic hooks, controlled maintenance, and disciplined defect documentation.
- Coordinated hardware, test, manufacturing, and sustaining engineers during field issue investigation and resolution.
- Delivered verified **firmware** releases supporting serviceable products, dependable operation, and practical maintenance workflows.

Embedded Software Engineer

Redwood Embedded Solutions

October 2008 - July 2010

San Antonio, TX

Developed microcontroller based embedded products through driver design, subsystem integration, debugging, build support, and defect correction. Built practical foundations in low level software, hardware interfaces, source control, and test diagnostics.

- Developed embedded C drivers for timers, serial protocols, memory, and digital input output subsystems.
- Integrated low level software with hardware designs, resolving interface defects during bench testing and system checkout.
- Improved source control baselines and build procedures, giving senior engineers clearer release and defect history.
- Added diagnostic test hooks that shortened troubleshooting cycles during subsystem integration and verification.
- Documented defect fixes and maintenance decisions for reliable handoff across engineering and test personnel.

PROJECTS

Secure Connected Device Platform 2024

Directed a reusable firmware security platform for connected medical devices, combining secure boot, authenticated updates, SBOM governance, vulnerability response, and traceable release evidence.

Portable Respiratory Firmware Modernization 2021

Modernized portable device firmware across RTOS integration, BLE connectivity, secure communications, verification, configuration management, and risk controlled product release.

Regulated Monitoring Platform 2016

Guided monitoring firmware delivery through driver updates, diagnostics, peer review, static analysis, unit testing, design controls, and production readiness.

LEADERSHIP & AWARDS

- 2026, Certified Information Systems Security Professional recognition for product security leadership.
- 2025, GIAC Global Industrial Cyber Security Professional certification for applied embedded security practice.
- Technical leadership, mentoring engineers and raising secure development capability across regulated product teams.

EDUCATION

Master of Science in Computer Engineering

2008

The University of Texas at Dallas GPA: 0

Richardson, TX

Coursework: Embedded systems, computer architecture, software engineering, cybersecurity

Bachelor of Science in Electrical Engineering

2006

Texas Tech University GPA: 0

Lubbock, TX

Coursework: Digital systems, microprocessors, control systems, electrical circuits

CERTIFICATIONS

- Certified Information Systems Security Professional 2026
- GIAC Global Industrial Cyber Security Professional 2025

TECHNICAL SKILLS

- Embedded Languages: C, C++, Embedded C
- Real Time Systems: RTOS, task scheduling, interrupt handling
- Microcontroller Platforms: Microcontrollers, memory constraints, power constraints
- Firmware Hardware: Device drivers, board bring up, hardware interfaces
- Connectivity Protocols: BLE, serial protocols, secure communications
- Boot And Updates: Bootloaders, secure boot, OTA updates
- Product Security: Threat modeling, cryptography, key management
- Security Operations: Vulnerability management, penetration testing, fuzz testing
- Quality Standards: IEC 62304, ISO 14971, IEC 81001 5 1
- Security Frameworks: FDA cybersecurity guidance, UL 2900, NIST Cybersecurity Framework
- Software Delivery: CI/CD, automated builds, configuration management
- Traceability And Risk: Design controls, bidirectional traceability, risk management

SKILLS

- C
- C++
- RTOS
- Microcontrollers
- Device drivers
- Board bring up
- Bootloaders
- BLE
- Secure boot
- Threat modeling
- Cryptography
- Key management
- OTA updates
- SBOM governance
- IEC 62304

PROFESSIONAL AFFILIATIONS

- Association for Computing Machinery, professional participation in embedded software and security discussions.
- Institute of Electrical and Electronics Engineers, collaboration across engineering, systems, and reliability communities.

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST