Dawson Sanchez

Development Engineer

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STRENGTHS

Evidence based decisions
Used MATLAB, Ansys, inspection data, and statistical results to compare design options and build executive confidence.

Regulated documentation
Created test reports and Design History File content that gave Quality partners clear, traceable evidence for review.

Supplier partnership
Worked through DFX, materials, process, and risk questions with suppliers. Tough issues became easier to resolve.

Practical problem solving
Connected failure modes with design controls and follow up actions, giving teams a clearer path through product risk.

Cross functional delivery
Kept design, manufacturing, Quality, and inspection voices aligned during prototypes, testing, and transfer decisions.

SKILLS

Design Inputs | Design Outputs | Risk Management | Biocompatibility | Materials Selection | Tolerance Analysis | Design History Files | Verification and Validation | Process Characterization | DOE | Prototyping | MATLAB | Ansys | DFX Reviews | SAP PLM

SUMMARY

Development engineer with three years of **product development** experience supporting regulated orthopedic and medical device programs from design inputs through verification, validation, and manufacturing readiness. Applies mechanical design, tolerance analysis, materials evaluation, biocompatibility review, risk management, and structured testing to convert product needs into traceable engineering outputs. Hands on work includes CAD, rapid and conventional prototyping, test method development, **Design of Experiments**, process characterization, statistical analysis, MATLAB, Ansys, and supplier facing DFX reviews. Prepares **Design History File** content, technical reports, test reports, and risk documentation while partnering with Quality, manufacturing, design, and external suppliers. Lean Six Sigma Green Belt experience supports disciplined project execution, clear technical communication, **analytical problem solving**, and evidence based decisions that improve product fit, manufacturability, cost, and readiness.

EXPERIENCE

Development Engineer

Cardinal Ridge Medical July 2024 - Present Bloomington, Indiana

Own orthopedic component development across design inputs, concept refinement, prototype evaluation, verification planning, manufacturing transfer, and supplier process readiness. Partner with Quality, manufacturing, design, and external suppliers to resolve technical risks and create traceable product documentation.

- Translated **design inputs** into CAD concepts, prototypes, verification plans, and **manufacturing transfer** outputs.
- Built CAD tolerance analyses and stack calculations, resolving fit risks through inspection data reviews.
- Authored **test protocols**, methods, **technical reports**, and Design History File verification summaries.
- Planned DOE and **process characterization** studies, establishing supplier operating windows from statistical results.
- Led DFX reviews covering materials, assembly, manufacturing, cost, risk, and **corrective actions**.
- Compared design alternatives with MATLAB and Ansys simulations, supporting documented engineering decisions.

Associate Product Development Engineer

Prairie Biomedical Solutions September 2023 - June 2024 Lafayette, Indiana

Supported regulated medical device development through supervised design analysis, feasibility builds, bench testing, controlled documentation, and product data maintenance. Connected prototype feedback with manufacturability, assembly, cost, inspection, risk files, and design control evidence.

- Supported feasibility builds with CAD analysis, prototype configurations, bench testing, and controlled records.
- Updated CAD designs using manufacturability, **assembly**, **cost**, and inspection feedback from review teams.
- Executed approved bench **test protocols** and prepared reports for engineering and Quality review.
- Connected product failure modes with **design controls**, **verification** evidence, and follow up actions.
- Maintained drawings, reports, changes, and product data within **SAP Product Lifecycle Management**.
- Applied Lean problem solving to clarify prototype workflows and reduce avoidable rework.

PROJECTS

Orthopedic Component Verification Program 2026

LANGUAGES

English — Native

Spanish — Intermediate

MY CAREER

- Development Engineer at Cardinal Ridge Medical (2.2 Years)
- Associate Product Development Engineer at Prairie Biomedical Solutions (9 Months)

Developed a structured verification approach for orthopedic components, linking design inputs, risk controls, test methods, technical reports, and Design History File evidence. Work connected prototype findings with manufacturing readiness and supplier review decisions.

Supplier Process Characterization Study 2025

Planned DOE and process characterization activities for supplier operations, then used statistical analysis to identify operating windows, clarify risk, and support consistent assembly outcomes.

LEADERSHIP & AWARDS

- Lean Six Sigma Green Belt recognition, applied process improvement methods to prototype workflow and supplier studies.
- Development engineering leadership, guided cross functional reviews that connected design, Quality, manufacturing, and supplier decisions.
- Technical documentation contribution, produced traceable reports and Design History File content for regulated device programs.

EDUCATION

Bachelor's Degree in Biomedical Engineering

Purdue University GPA: 4.0 2023 West Lafayette, Indiana

Coursework: *Medical device design, biomechanics, materials science, statistics*

CERTIFICATIONS

- Lean Six Sigma Green Belt 2025
- SAP Product Lifecycle Management Training 2024

TECHNICAL SKILLS

- **Medical Device Design:** Orthopedic devices, Biomedical engineering, Product development
- **Design Controls:** Design inputs, Design outputs, Design History Files
- **Verification Testing:** Verification protocols, Validation planning, Test reports
- **Risk Management:** Risk files, Failure modes, Corrective actions
- **Engineering Analysis:** Tolerance analysis, Stack calculations, Inspection data
- **Materials Engineering:** Materials selection, Biocompatibility, Assembly materials
- **Prototyping Methods:** Rapid prototyping, Conventional prototyping, Feasibility builds
- **Statistical Methods:** DOE, Statistical analysis, Process characterization
- **Simulation Tools:** MATLAB, Ansys, CAD
- **Lifecycle Systems:** SAP Product Lifecycle Management, Drawings, Change records
- **Manufacturing Design:** DFX, Assembly design, Cost analysis
- **Process Excellence:** Lean, Value Engineering, Green Belt

PROFESSIONAL AFFILIATIONS

- Biomedical engineering professional community participant, staying connected with medical device design practices.
- Lean improvement practitioner, applying structured analysis to product development and manufacturing challenges.

ADDITIONAL INFORMATION

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

REFERENCES

AVAILABLE ON REQUEST