Frank Deckert

Fort Walton Beach, FL | Frank.Deckert@gmail.com | FJDesignStudio.com

Product Development Engineer & Designer

Product development engineer and designer with hands-on experience taking physical products from concept through prototyping, testing, and manufacturable design. Combines SolidWorks modeling and engineering documentation with practical fabrication, material knowledge, and direct collaboration with manufacturers and end users. Brings a maker's approach to mechanical problem-solving, supported by experience in mechatronics and contributions to pending patents.

Professional Experience

Product Development Engineer

Current Products Corp. – Pensacola, FL
July 2023 – Present

- Develop creative, manufacturable product solutions from concept through functional prototype and production-ready design.
- Design and document components using SolidWorks; produce detailed engineering drawings and specifications for vendors.
- Collaborate directly with manufacturers to optimize designs for injection molding, formed metal, wood, machining, and blow molding.
- Lead hands-on testing and validation of components and full assemblies to verify performance, durability, and usability.
- Primary contributor on a modular reclining chair platform utilizing a shared counterbalance mechanism across multiple products.
- Contributed to **three pending patents** related to mechanical design and product functionality.

Orthotic & Prosthetic Technician

Hanger, Inc. (formerly Eastern Shore Orthotic & Prosthetic) – Fairhope, AL
May 2018 – August 2022

- Fabricated custom orthotic and prosthetic devices using vacuum-formed plastics, laminated carbon fiber, metal, leather, and composite materials.
- Modified plaster molds and refined designs to improve fit, comfort, and functional performance for individual users.
- Performed precision adjustments and repairs based on patient feedback and real-world use conditions.
- Managed laboratory inventory, workflow scheduling, and work-in-progress prioritization to meet clinical deadlines.

President / Owner

F2 Design & Fabrication, Inc. – Fort Walton Beach, FL
March 2013 – May 2018

- Founded and operated a design-and-fabrication business delivering custom orthotic and prosthetic solutions.
- Led end-to-end product development: concept generation, design, fabrication, testing, and final delivery.
- Averaged 40+ hours per week of hands-on technical fabrication.
- Managed procurement, inventory control, and vendor relationships to ensure uninterrupted production.
- Oversaw logistics for all incoming and outgoing jobs, including shipping, receiving, and scheduling.

Education

Bachelor of Science – Engineering Technology
University of West Florida – Pensacola, FL
August 2020 – May 2023

Bachelor of Arts – Communication Arts & Advertising
Minor: Marketing
University of West Florida – Pensacola, FL
August 2011

Certificate – Supply Chain Logistics
University of West Florida – Pensacola, FL
May 2011

Selected Academic Projects

Capstone Project – Dynamic Orthotic Control System
August 2022 – May 2023

- Co-developed a mechatronic system that converts conventional orthotic devices into dynamically controlled systems.
- Designed a knee-locking mechanism using a microcontroller, linear actuators, force sensors, and a custom PCB.
- Integrated five embedded foot sensors to detect gait phase and control knee joint locking/unlocking for improved mobility.
- Delivered a fully functional prototype demonstrating real-time control and reliability.

Mechatronics – Autonomous Systems Design
Spring 2023

- Designed and built multiple autonomous systems using microcontrollers, sensors, motors, motor controllers, relays, and power regulation components.
- Final project involved conceiving, designing, fabricating, and testing a complete product prototype within a two-week timeframe.

Skills & Technical Expertise

Mechanical & Product Design: SolidWorks (Assemblies, Drawings, Simulation, Sheet Metal, PDM); Certified SolidWorks Associate (CSWA).

Prototyping & Fabrication: Injection-molded part design; CNC machining centers; CNC laser tube cutting and bending; Vacuum forming thermoplastics; Composite layups and carbon fiber fabrication; Manual machining and shop equipment.

Electronics & Controls: C programming and Arduino IDE; Sensors, actuators, motor controllers, and embedded systems.

Additive Manufacturing: 6+ years experience with multiple 3D printing platforms.

Software & Creative Tools: Adobe Creative Suite (10+ years); Microsoft Office Suite (10+ years).

Additional Innovation Experience

Marine Mammal Tagging Equipment Development - Designed and fabricated equipment housings for marine research applications. - Conducted hydrodynamic testing and iterative prototype refinement. - Assisted in preparation of federal grant applications supporting R&D efforts.