

# John Finnegan

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## EDUCATION

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**Master of Science, Systems Engineering** | Embry Riddle Aeronautical University | 4.0 GPA

Expected 2027

**Bachelor of Science, Mechanical Engineering** | The University of Mississippi

## EXPERIENCE

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### Medtronic, Inc.

2024 – Present

Senior Engineer, Surgical Innovations

North Haven, Connecticut

- Execute Non-Conforming Material Reports (NCMRs) and investigations for components and finished goods, conducting root-cause analysis and implementing Corrective And Preventive Actions (CAPA) with supplier quality, manufacturing, and regulatory groups
- Authored series of work instructions and SOPs for manufacturing and material handling procedures to align standard work across 4 sites
- Oversee process control implementation (machine vision, ultrasonic inspection, predictive maintenance) for automated lines at 8 sites
- Define system requirements for proposed automated lines, constructing Design and Process Requirements Specifications (DRS/PRS)
- Interface with suppliers to guide Measurement System Analysis (MSA) and Gage R&R for adoption of external manufacturing methods

### Vygon Vascular Access, Inc.

Sep 2021 – Jan 2024

Packaging Engineer, Medical Devices

Dover, New Hampshire

- Implemented ASTM D3078 and F2096 pressurized leak test procedures to plant, conducting Test Method Validation (TMV) to qualify
- Developed formal Design of Experiments (DOE) procedures for thermoforming equipment, standardizing design matrices across North American equipment portfolio and characterizing parametric impacts on system outputs
- Led new process introduction for drug delivery device assembly, transitioning from manual first-article prototypes to automated assembly
- Oversaw revalidation of ISO 8 (class 100,000) clean room and led redevelopment of value stream maps, layout, and material flow plans
- Designed test methodology & defined test parameters for ASTM D4169 vibration testing & ASTM F1980 environmental simulation
- Orchestrated material validation studies, implementing changes which led to \$310,000 in annual raw material savings during the 2021-22 supply chain disruption, a 22% reduction in sterile product assembly cost

### Parker Hannifin Corporation

May 2019 – May 2021

Manufacturing Engineering Co-op

Batesville, Mississippi

- Implemented Coordinate Measuring Machine (CMM) inspection process for four product lines, eliminating recalls across eleven CFNs.
- Designed hot-swappable tooling in Inventor, applying ASME Y14.5 GD&T and ensuring tolerance stack remained within specification
- Drafted bend and press tooling for high-mix facility using Inventor CAD following DFM principles, prototyped with additive manufacturing, and programmed toolpaths for fabrication using three-axis CNC mill

### Ole Miss Rocketry

Jan 2017 – May 2021

Integration & Test Team Member

Oxford, Mississippi

- Fabricated and certified class M high-power rocket for Intercollegiate Rocket Engineering Competition (IREC) in 3 months as member of 12-person team, successfully achieving launch in year one of participation in program
- Developed and integrated avionics suite for in-flight telemetry logging of altitude, velocity, acceleration forces, and chute deployment
- Modeled and produced “crumple zone” lightweight nose cone for FDM 3D printing, using ANSYS FEA to reduce mass by 45% while maintaining strength and impact-absorbing properties

### Nissan North America

May 2018 – Aug 2018

Manufacturing Engineering Intern

Canton, Mississippi

- Introduced a series of reinforced polymer jigs to MIG welding cells, precipitating 30% decrease in hood panel defects across Frontier line
- Reduced mechanical stress on 18 gauge steel fenders through redesign of press die tooling in Siemens NX
- Implemented IATF 16949-compliant additive manufacturing processes, reducing department machining expenses by \$6,000/mo
- Earned Nissan Lean Six Sigma equivalent Green Belt following lean manufacturing training

## ORGANIZATIONS

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**FIRST Robotics** – Lead Mechatronics Mentor, Team 8085 Milford

2024 – Present

**New Hampshire Astronomical Society** – Volunteer Member

2021 – Present

**American Institute of Aeronautics and Astronautics** – Chapter Vice President, Professional Member

2017 – Present