

# Nathan Edward Jarboe, P.E.

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**Education**      **Master of Engineering in Mechanical Engineering**  
**Bachelor of Science in Mechanical Engineering**  
University of Louisville, Louisville, KY

**Bachelor of Science in Biology**  
University of Kentucky, Lexington, KY

**Licensed Professional Engineer (P.E.)**

## **Experience**

### **Belcan – Lexington, KY**

-Lead Engineer: 07/2019 – present

Conduct Stress Analysis of Airplane Wings

Evaluate Helicopter Dynamic Systems such as Housings, Gears, Transmissions, and Blades

Design Honeycomb Panels for Spacecraft using FEMAP and other Software

Analyze a variety of Structures using Classical Methods such as those of Bruhn, Roark, Shigley, Nui, etc

Experienced user of ANSYS with Specific Knowledge of Patran/NASTRAN/FEMAP

Mentoring Experience

### **Ti-DAWGS Titanium Felling Spikes**

-Mechanical Design Engineer and Owner: 10/15/2023 – present

Titanium Chainsaw Parts for Loggers and Tree Service Professionals

### **Heartland Automation – Georgetown, KY**

-Mechanical Design Engineer: 08/2018 – present

Integrate Heartland Automation “Mylo” and “Max N10” autonomous ground vehicles

Provide CAD designs and drawings to the welding, machine, and assembly shops for manufacturing

### **Bell Flight (Formerly Bell Helicopter) - Piney Flats, TN**

-Project Engineer II, Airframe Design and Analysis: 10/2010 – 08/2018

Conducted static and fatigue airframe structural analysis for customizing helicopters

Developed first metal fatigue analysis tool for use at Bell Piney Flats using Mathcad and Excel

### **Duck Flapper – Duck Motion Decoys**

-Owner / Designer / Manufacturer: 04/2018 – present

Designed decoys with moving tail to simulate live ducks

Product patent licensed for mass production to a large decoy manufacturer

### **Schwaniger Enterprises –Engineering Consulting and Product Design**

-Owner and Principal Engineer: 03/2008 – present

Provide product design and engineering for a variety of industries

### **SAIC - Scientific Applications International Corporation – Crane, IN.**

-Contract Electromechanical Engineer: 10/2009 – 10/2010

### **Kennametal Conforma Clad – New Albany, IN**

-Development Engineer: 02/2007 – 01/2009

### **U.S. Army Research Lab, Weapons and Materials Research Directorate – Aberdeen Proving Ground, MD.**

-Mechanical Engineer: 10/2006 – 02/2007

### **U.S. Army Research Lab, Human Research and Engineering Directorate – Aberdeen Proving Ground, MD.**

-Mechanical Engineer: 11/2003 – 10/2006

## **Technical Skills**

- ANSYS, COSMOS, Excel, and Solid Edge, MATLAB, Mathcad, LabVIEW, Solid Works, Inventor
- End mill, lathe, band saw, TIG welding, grinding, pneumatic tools, chop saw
- 3D Printing using FDM (fused deposition modeling – bed leveling, bed adhesion, ABS materials)
- Patran, NASTRAN, Sikorsky custom tools: Y004, CLPT, and 3D Props

## **Other Accomplishments**

- Published Master's Thesis
- Designed a garden pest control device
- Designed, built, two licensed silencer/suppressors, one for a .22 rimfire rifle and one a .308 rifle
- Negotiated a patent license agreement for mass production of "DuckFlapper" duck decoy apparatus
- Offer consulting through an independent business
- Married in 2004, 6 children, own a 50-acre mini-ranch with sheep, ducks, chickens, and hay crop