

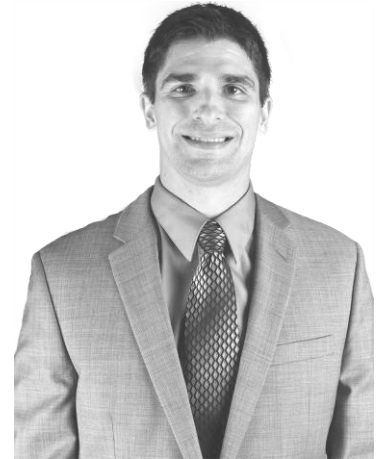


Aaron J. Tolly, P.E.

Professional Competencies:

Mechanical Engineer, Aerospace Concentration with expertise in:

- Mechanical and electromechanical design
- Robotics, mechatronics and automation
- CAD modeling, CAM programming
- Embedded software development, micro-coding and GUI design
- CNC mill and CNC lathe and engine lathe machining
- Rapid prototyping, test fixture design and 3D printer operation



Experience Summary

- Principal designer and project manager
- Mechanical design, system integration, and design of test systems for manufacturing analysis
- Jet engine testing and related tool design

Employment History:

Wolf Technical Services, Inc., Indianapolis, IN

Mechanical Engineer with Aerospace Concentration (2010 to Present)

Mr. Tolly is an experienced mechanical and electromechanical designer. He is the principal designer and project manager on DARMS, an aircrew-mounted, auto-retracting restraint system for use in rotary wing aircraft, developed for NAVAIR. He was also the principal designer and project manager on the robot arm that was developed for NAVSEA, doing much of the mechanical design, sensor and motion control design and real-time software design. The device to automate the probe alignment for eddy current inspections underwent successful testing in Puget Sound Naval Shipyard. He was integral to the development and successful test of the energy-absorbing UMARS restraint system for the Australian Army. He also conducted much of the mechanical design and coded many of the real-time processes in the WIMS system, as well as the interactive graphical user interface. In addition to mechanical engineering, Mr. Tolly has expertise in electromechanical design, robotics, automation and micro-coding.

Real Power and Contour Hardening, Indianapolis, Indiana

Capstone Project (2009–2010)

Worked on a design project for a patent pending inductive ignition system involving mechanical design, system integration, and design for manufacturing analysis.



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General Electric Aviation, Cincinnati, Ohio

Mechanical Engineer (2008–2009)

Supported team for the High Pressure Compressor Module in the Equipment Engineering division; trained in jet engine assembly and associated tooling in relation to the Compressor module; performed engineering analysis on tools and assisted in design work; tool troubleshooting and redesign needs; setup and preparation for instrumentation, installation, facility inspection and test monitoring for jet engine altitude testing; department organization and formation of test setup kits.

Tolly Construction, Moweaqua, Illinois

2004 – 2008

Assisted in various exterior remodeling tasks including roofing and siding; destruction and construction of framework and interior finish work including flooring, tiling, and trimming; solved structural integrity and aesthetic issues while focusing on customer expectation.

Skills/Experience:

Robotics, Mechatronics, CAD Modeling, CAM Programming, CNC Mill and Lathe Machining, Engine Lathe Machining, 3D Printer Operation

Software/Programming Languages:

SolidWorks, Alibre Design, SprutCam, Working Model 2D, Tina Circuit Simulator; Visual Basic .NET, C (on Microchip® MCU's and Linux-based SBC's), Parker Hannifin® AcroBasic, Python, Matlab

Patents:

Mechanically Actuated Cargo Restraint System, US10583770B2

Tube Introducer Intubation Device, WO2020247386A1

Emergency Incision and Dilation Apparatus and Method, WO2020247396A1

Education:

Rose-Hulman Institute of Technology, Terre Haute, Indiana

2010

Bachelor of Science Mechanical Engineering

Concentration: Aerospace Engineering

Robotics Certificate

Licenses and Affiliations:

Professional Engineer, State of Indiana – License #PE11900052

Corporate Member of SAFE Association and SAFE - Wright Brothers Chapter

Big Brothers Big Sisters of America

Triangle Fraternity

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Continuing Education:

Decatur Professional Development	2022
Design of Structural Welds	
AC Electric Circuit Analysis for Electrical Engineering	
Introduction to Centrifugal Pumps	
Fluid Power Part 1 - Hydraulic Principles	
Fluid Power Part 2 – Hydraulic Power Units	
Fluid Power Part 3 – Hydraulic Components	
Digital Electric Circuits & Intelligent Electrical Devices	
Decatur Professional Development	2020
Variable Frequency Drives	
Diesel Engine Fundamentals, Part 1 &2	
Advanced Brayton Cycle (Gas Turbine) for Power Application and Combustion Analysis	
Georgia Institute of Technology through Coursera	2013
Control of Mobile Robots	
Computational Investing, Part 1	