WOLF
Forensics and Design Engineering

13097 Parkside Drive
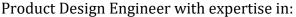Fishers, Indiana 46038
800.783.9653 · 317.842.6075

wolftechnical.com

Andrew "Woodie" Polk IV, MS

Professional Competencies:

Mechanical Engineer who investigates:
- Mechanical and electrical product failures
- Vehicular collisions
- Vehicle systems and component failures
- Industrial/ workplace accidents

Product Design Engineer with expertise in:
- Human machine interface design
- Capacitive touch screen design and display integration
- Human factors specializing in haptic perception
- Design of test fixtures for electrical and mechanical components
- Data analysis

Experience Summary
- New product development; industrial, medical, off-highway
- Rapid prototyping; FDM, low temp molding, PCB and FPC design
- New technology research and development
- Reconstruction and segmentation of volumetric data for visualization
- Computer vision and robotic control
- Quantitative image/data processing
- Computer vision using OpenCV
- Firmware development for Arduino microcontrollers
- Root cause analysis and FMEA

Employment History:

Wolf Technical Services, Inc., Indianapolis, IN
Mechanical Engineer, Forensic Engineer (June 2025 to Present)

Mr. Polk investigates accidents and failures including product defects contributing to property damage or personal injury. He determines root cause of product failures caused by fatigue, corrosion, and material defects using the application of structured engineering analysis. Adept at creating visualizations of complex datasets, and process flows Mr. Polk presents engineering analysis effectively. He contributes his knowledge of human machine interfaces and mechanical systems to advise new designs. He creates mechanical designs, engineering drawings, performs material evaluation, testing support and fabrication of prototype parts.

Grayhill, LaGrange, IL
Project Engineer (Sept 2013 to Mar 2025)

Developed human machine interfaces, focusing on capacitive touch technologies, information display and active haptics for the industrial and off-highway markets. Product testing and qualification of new products. Evaluation and prototyping of new technologies.

Purdue University 2010-2013
Research/Teaching assistant
- Instructed undergraduate students in engineering design course on how to use Pro/Engineer and design of mechatronic systems.
- Presented 'best practices' lecture for 3D printing in FDM and SLA
- Research projects
  - Novel 3D human computer interactions
  - Hand pose estimation using depth camera
  - Algorithmic model segmentation
  - Novel 3D model encoding for engineering part database search indexing.

University of Arizona 2005-2010
Undergraduate Research assistant
- Three-dimensional reconstruction of abdominal aortic aneurysm from tomographic data.
- Three-dimensional reconstruction of metallic crystals formed in low gravity environment from slice data

University of Rhode Island 2007
Undergraduate Research assistant
- Constructed physical model of alveoli for study of particle deposition location in branched structures during respiration

Education:

Purdue University, West Lafayette, IN	2013
Master of Science in Mechanical Engineering	
University of Arizona, Tucson, AZ	2010
Bachelor of Science in Mechanical Engineering	

Training:

GD&T Training	2016
Maxtouch Studio Training	2016
Maxtouch Studio Training	2018

Computer Systems & Software:
Proficient in PC-based systems, Python, C++, LabVIEW, MATLAB, Pro/Engineer, PTC Creo, Fusion 360 and DraftSight