

Matthew Howell

College Station, TX
Matthew@PersonalEngineering.com

PROFESSIONAL EXPERIENCE

Lead Mechanical Engineer/ Co-Owner

October 2012 - Present

Personal Engineering LLC, College Station, TX

- 2D & 3D modeling of mechanical and non-mechanical systems
- Performed structural design & analysis (analytical calculations and Finite Element Analysis (FEA)) of mechanical systems
- Material Selection for structural and off-the-shelf components
- Drafted mechanical drawings (parts, weldments, and assemblies) of various projects
- Performed and coordinated prototype testing to show compliance to system requirements
- Performed onsite product fit up and installation

Senior Mechanical Engineer

June 2010 – October 2012

BMI Defense Systems, College Station, TX

- Structural design and analysis of military tow bars and military gunners platform
- Developed procedures and performed training for in-house building and testing synthetic rope
- Performed training and developed procedures for destructive and non-destructive testing
- Drafted parts, weldments, and assembly drawings of various military projects
- Coordinated and performed prototype testing to show compliance to system requirements
- Performed onsite military product fit up and installation

Senior Mechanical Engineer

September 2005 - June 2010

DYNACON Inc., Bryan, TX

- Managed several multi-million dollar domestic and international projects
- Structural design and analysis of hydraulically actuated heavy lift cranes, A-frames, power units, storage winches, and traction winches
- Drafted parts, weldments, and assembly drawings; completed design packages for third party certification by Det Norske Veritas (DnV) and American Bureau of Shipping (ABS)
- Conducted meetings and design reviews
- Coordinated factory acceptance testing to show compliance to system requirements and on-site commissioning

Mechanical Engineer – II

August 2004- September 2005

Oceaneering Space Systems, Houston, TX

- Improved and/or assisted design for a wide variety of Extravehicular Activity (EVA) tools and crew aids necessary for human space flight.
- Identified EVA hardware anomalies by troubleshooting and resolving hardware discrepancies and design flaws.
- Provided technical support in the areas of design, fabrication, testing, and certification including evaluation and approval of design changes, specifications, and drawing releases.
- Developed operating procedures for hardware assembly, maintenance, and use.
- Supervised the assembly, disassembly and maintenance of flight hardware.
- Performed acceptance tests on various EVA tools such as pre-delivery testing, vibration testing, thermal testing, and pre-installation testing.

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Designer/ Fabricator

1999-2003

Texas A&M University, College Station, TX

- Designed and supervised fabrication of flame cultivators assisting Head of Power & Machinery Department to obtain patents.
- Designed, scheduled, and manufactured three formula type racecars and three tractor-pull tractors.
 - Applied engineering theories, methods, research, and extensive testing in the investigation and solution of racecar and tractor design problems.
 - Manufacturing/ Assembly Manager, primary welder, structural chassis designer, and component packager.
 - Each project is estimated at \$1,000,000 in time and materials.
- Designed micro-crack actuator for research on crack tip propagation of different materials for Aerospace Engineering Department.

Owner/ Partner

1992-2004

A&M Manufacturing, Sulphur Springs, TX

- Co-founded farm implement manufacturing business, managing design and fabrication of products, tooling and equipment.
- Designed and manufactured metal rolling machines, large metal benders, and large belt grinders for production line.
- Designed, manufactured, and distributed cattle chutes, trailers, and numerous specialized farm implements primarily to local customers.
- Sold an average of 250 hay rings and 300 hay ring kits per year over the southwest region.

SKILLS

- Proficient in 3-D modeling using SolidWorks
- Proficient in Solid Works Cosmos FEA
- Experience with AutoCAD, Mechanical Desktop and AutoDesk Inventor
- Experience with GD&T (Geometric Dimensioning and Tolerancing)
- Working knowledge of ProEngineer and Algor
- Extensive experience with Windows Office Suite
- Highly Skilled MIG, TIG, and ARC welder
- Experience with basic and CNC machine tools (lathe, mill, surface grinder, plasma torch)

HONORS

- American FFA Degree
- 1997 National FFA Agricultural Mechanical – Entrepreneurship Proficiency Award

EDUCATION

Texas A&M University

- Mechanical Engineering, B.S. – May 2003
- Agricultural Engineering (Power and Machinery), B.S. – May 2003