

Brian M. Unger, PE

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Qualifications

Any chance to open my mind is an opportunity to learn something new. I am eager not just to know, but to surpass knowledge through proficiency in learning. This thirst for knowledge has led me to develop a wide variety of engineering skills such as; Machine Design, SolidWorks, GD&T, Microsoft Office, DFMEA, Lean development, Patents, Hydraulics, Controls, CAN & RS485 network, PLC, and Arduino Design, and an understanding of; Steel Fabrication, Welding, Injection molding, turning, milling, PCA's and PCB's, anodizing, coating, fixture design, and sheet metal bending. I have some experience with AutoCAD 2D/3D, MathCAD, Inventor, heat transfer, fluid mechanics, corrosion control, Lean manufacturing, and many manufacturing processes. From my years of experience designing and building farm equipment without the aid of a computer, I have acquired a keen sense of 3D thinking and spatial reasoning. My recent studies in problem solving have led to a strong understanding of the nature of problems and how to better approach them.

Professional Experience

Freelance Mechanical Engineer

Unger Designs LLC, Hillsboro, OR

March 2013 – Present

Experience running a freelance business has strengthened my appreciation for working with customers and project management from start to finish.

- Consulting design of electromechanical classic gaming retrofits and classic hand-held game devices.
- Design and manufacture of Do-It-Yourself hobby kits.
- All design using SolidWorks. studying and philosophizing the concepts of problem solving and working towards publishing a book.
- Wind tunnel design for a beaverton based athletic apparel design company.

Advanced Development Engineer

Sawstop LLC, Tualatin, OR

September 2017 - Present

- Analysis and design of high speed dynamic systems which stop saw blades in milliseconds.
- Design controls systems to monitor lifecycle testing.

Mechanical Design Engineer

Entro Industries, Hillsboro, OR

March 2014 – September 2017

The experience in a small company has provided many opportunities to learn a diverse set of skills.

- Model and structural Analysis of oil rigs and walking systems with Risa structural analysis software.
- Machine design of hydraulic operated machinery with AutoCAD 2D and Inventor.
- Design and code three different automatic walking machines with Danfoss Plus+1 controls software and CAN network design of which is resulting in 4 utility patents.
- Wrote and reviewed several patents.
- Developed a quality management system and many accompanying processes and procedures.
- Project management of the entire scope of projects.

Product Design Engineer and Lead Engineer

Gerber Legendary Blades, New Product Development, Portland, OR

February 2010 – March 2014

The experience of taking products from concept to production has enhanced my product development skills.

- Designed 13 consumer products using SolidWorks of which 3 led to utility patents for Gerber.
- Managed a group of 4 engineers in designing and implementing over 20 products.
- Led the company in transitioning to drafting to GD&T Y14.5-2009.
- Developed a quality management system for managing color per CIE 94 color tolerance standards.

Manufacturing Engineer Intern - MECOP

Daimler Trucks North America, Coating Technology Dept., Portland, OR

April 2008– January 2009

The requirement of coating technology to be the customer's first impression has greatly improved my awareness and appreciation for the final look of a product.

- Design of a universal paint cart with AutoCAD 3D to replace over 60 other carts.
- Developed a well-organized database of adhesives, sealants, and solvents.

Mechanical Engineer Intern - MECOP

A-Dec, Dental Furniture Dept., Portland, OR

April 2007 – September 2007

Working in dental furniture allowed me to develop knowledge in CATIA V5 as this was their primary tool.

- Designed a cabinet for state of the art dental equipment utilizing existing cabinet parts to reduce cost.
- Assisted in managing a project in testing, designing, and producing a solution to an ongoing overheating problem.

Farm Equipment Designer, Crew Manager, and Farm Hand

Unger Farms Inc, Cornelius, OR

Summers, 1995 – 2010

Growing up on a farm has led to a strong appreciation for hard work and accomplishment.

- Managed crews of farm hands.
- Design and build several multi-function farm implements utilizing PTO and hydraulic power.

Education

Bachelors of Science in Mechanical Engineering

Portland State University, Portland, OR

June 2009

- GPA of 3.87 with Magna Cum Laude institutional honors.
- Led a four-person team in designing an 8ft wingspan, 9lb airplane with a payload capacity of 25lbs for the SAE International Aero Design Competition.