Frederick W. Vasenius
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SUMMARY: Mechanical Engineer with achievement in designing and implementing solutions for electromechanical packaging, design for manufacturability, simplifying manufacturing and collaborating with other departments to solve or avoid problems during the initial design phase. Has experience in Medical devices, consumer electronics, avionics and aerospace. Adept in the following disciplines:

- **Structural Analysis:** Creep, Fatigue, Fracture Mechanics, Finite element Analysis, ANSYS, Nastran using NX Unigraphics, ABAQUS
- **Electronics Packaging:** Electronic packaging for hand held consumer electronics, and avionics, including Plastic injection molding, Sheet metal and PCB's, as well as thermal, shock and vibration testing.
- **Design With These Materials:** Composite Laminates, Sheetmetal, Plastic Injection Molding.
- **CAD/Design:** Solid Modeling CAD Pro/Engineer mechanical CAD (over 10,000 hours of experience); Pro/Detail, Pro/Sheetmetal, Pro/Interlink. Pro/E Wildfire 4.0 last used 2013, CATIA V5,Solid Works, NX UG.
- **Communication:** Teaching, MS Word MS Powerpoint, LATEX, Open office, HTML (see `www.fredspage.com`).

Recent Education: Master's degree in Aerospace Engineering, California State University Long Beach May 2013 with emphasis in Composite Materials and Structures, Fracture/failure Mechanics, Aircraft Design.

EXPERIENCE:

Full Time Job Search, and studying data science, Python and javascript **07/14-present**

Esterline Power Systems, Buena Park CA
Mechanical Engineer **05/14-07/14**

- Produced documentation on design viability based on finite element analysis.
- Developed process specification documentation
- Updated drawings in Auto Desk Inventor.

Plexus Neenah WI **01/14-02/14**
Mechanical Engineer

- Analyzed Solid Works models of a plastic injection molded rolling base for medical equipment using Ansys finite element analysis software and hand calculations.
- Verified results, produced presentations of results and made recommendations to demonstrate compliance with customer requirements.
- Designed a sheet metal bracket using Solid Works and created the corresponding drawing.

Rockwell Automation: Milwaukee WI **11/12- 12/13**
Electro Mechanical Engineer

- Designed high voltage. electronic packaging
- Designed current sensing coils in accordance with technical specifications using hand calculations to meet and in some cases exceed customer needs.
- Designed and prototyped plastic injection molded electro-mechanical packaging for electric motor overload protection.
- Performed Trade Studies for sensing connectors
- Created sketches layout models and drawings to review fit and function
- Prepared production drawings

Martinez and Turek (Aerospace Manufacturer), Rialto CA, **01/12 – 02/12**
Mechanical Engineer

- Used Pro/E Wildfire 3 to design outrigger trailer stabilizers for aerospace support equipment.
- Reviewed customer specifications such as weight, hydraulic lifting capability, road worthiness, and load bearing capabilities to produce a viable design.
- Refined design with classical analysis
- Prepared technical specification documents such as engineering drawings for fabrication

California State University Long Beach Long Beach, CA **06//11- 08/11**
Research Assistant (part time)
Research Assistant Modeling the dynamic performance of a magnetic levitation vehicle using Matlab to implement a state space and dynamic beam reaction model.

Full-time involvement in job search and continuing education 2009 to 2011

Stryker Instruments Portage, MI. **07/08-09/08**
Mechanical Design Engineer Consultant

- Wildfire and ANSI Y14.5 GD&T in the design of plastic injection molded handle for a disposable electro surgery device.
- Developed a way to make two opposing halves of the handle to be the exact, same part thus reducing the number of different parts.
- Developed ultrasonic weld joints. Developed bipolar silver and tungsten electrode tips.
- Developed internal and external power connectors Used Pro/E.

Full-time involvement in job search and continuing education **03/08-06/08**

Laird Technologies Lincoln, NE. **03/08 2 week close down job.**
Mechanical Engineering contract consultant

- Used Pro/Engineer Wildfire 3 to design and model sheet metal and film antennas for hand held radio frequency devices.
- Prepared production drawings.

Full time job search and continuing education 10/06-03/08

Edwards Life Sciences Irvine, CA. **08/06 - 10/06**
Mechanical Engineer

- Designed intra-arterial blood pressure monitoring and sampling equipment using Pro/E; performed tolerance analysis on plastic injection molded polycarbonate syringe-like piston cylinder assemblies.

Panasonic Avionics Lake Forest, CA. **05/05 - 08/06**
Mechanical Engineer

- Designed vibration testing fixtures; designed electronic packaging for PCB airborne electronics used in commercial aviation using Pro/E.
- Performed vibration testing.
- Eliminated the need for a fan in an overheating radio frequency amplifier.
- Modeled ARINC connectors on cable assemblies and Line Replaceable Units (LRUs); modeled LRU's.

Boeing Satellite Systems El Segundo, CA. **12/03 - 7/04**
Mechanical Engineer

- Using Pro/Engineer, produced CAD models, thermal blanket installation drawings and designed thermal blanket installation hardware (also designed blanket installation training mockups).

Triple A Containers Cerritos, CA. **9/03 - 11/03**
Mechanical Engineering Consultant

- Developed an efficient packaging design system: used Pro/E Wildfire software.

Mitsubishi Digital Electronics Irvine, CA. **7/99 - 10/03**
Mechanical Engineer

- Effectively reduced design cycle time from 7 weeks to under 2 weeks through automated mechanical packaging design
- Designed and documented wiring and
- Designed plastic injection molded parts.
- Designed Electro Magnetic Interference (EMI) shielding enclosures for PCB's;

Additional Experience available upon request

Education:

- **Master's degree in Aerospace Engineering, California State University Long Beach May 2013** with emphasis in Composite Materials and Structures, Fracture/failure Mechanics, Aircraft Design.,
- **BS Mechanical Engineering Walla Walla College 1997**