Matthew Martin, CSWA

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Hands on engineering student with drafting, machining, and electronic systems experience.

Education

Wentworth Institute of Technology, Boston, MA — GPA: 3.02

Bachelor of Science in Mechanical Engineering — Dean's List: Summer 2014

Technical Skills

Engineering:	Design for Manufacturing, Additive Manufacturing and Assembly, Geometric Dimensioning and Tolerancing, Design Optimization, Structural and Thermal Analysis
Software:	SolidWorks Associate, SolidWorks Professional Simulation Suite, PTC Creo, PTC Windchill, MATLAB, AutoCAD, Microsoft Office, Multisim, Mach3, BobCAD, GitHub
Manufacturing:	3D printing (FDM, SLA, SLS), G-code, CNC Machining, TIG and Wire Feed Welding
Languages:	HTML

Coursework

Calculus I-IV	Simulation Based Design	Mechanical Design and Analysis
Fluid Dynamics	Engineering Statics	Engineering Graphics
Design of Machine Elements	Circuit Theory and Application	Engineering Heat Transfer
Strength of Materials	Engineering Dynamics	Mechanical Engineering Design

Projects

TorSen Limited Slip Differential 3D Printing Project

- Used SolidWorks to fully model and analyze motion of the differential
- Project requires an assembly that transmits power, and must come out of the printer working – no assembly
- Printed on a Stratasys Objet24
- Multiple small test prints to confirm tolerances and critical interfaces prior to full print

Engine Hoist Analysis

- Given 3D SolidWorks model of 2 Ton max load Engine Hoist for analysis
- Conducted calculations and SolidWorks FEA to determine component stress, displacement and bolt loads
- Design overhaul to meet specifications for displacement and FoS
- Used Design Optimization Analysis to find optimal part sizes and specs, confirmed with FEA

Gearbox Design

- Researched industry standards and specifications for gears, shafts, and seals based on required ratio and output
- Performed stress and loading analysis on gears, shafts and shear pin
- Used SolidWorks to model gear, pinion, housing, shafts and bearings
- Used SolidWorks Simulation to perform FEA on the gearbox to find show failure points and fatigue failure

Work Experience

QinetiQ North America – Waltham, MA — September 2016-December 2016

Design Services Co-Op

- Detailed design and drafting in 3D Solid Modeling CAD program (CREO)
- Implementation and completion of engineering change orders
- Investigate and resolve production issues

Massa Products Corporation – Hingham, MA — January 2016-August 2016

Engineering Co-Op

- 3D Design and development in SolidWorks
- Review of electro-acoustic device design for military and commercial applications
- Engineering documentation

SK Marine Electronics, Inc. – New Bedford, MA — May 2015-August 2015

Marine Electronics Technician

- Installation, networking and repair of high end marine electronics packages
- Custom fabrication and mounting systems

Technical Certification — Accredited in December 2013

- Certified SolidWorks Associate (CSWA)