Brian A. Ferri

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Objective

Obtain a full-time position or internship with intent to hire full-time as a Mechanical Engineer

Education

Georgia Institute of Technology *Atlanta, GA*

- Bachelor of Science (B.S.) - Mechanical Engineering; Minor - Industrial Design Dec, 2014
- Master of Science (M.S.) - Mechanical Engineering May, 2017

Relevant Work Experience

Sandia National Laboratories *May, 2016-Aug, 2016*
R&D, Graduate Student Internship *Albuquerque, NM*

- Wrote macros to create complex geometric 2D and 3D CAD structures automatically which were inserted into simulation software CTH to perform dynamic failure testing of high speed impact
- Used a Linux/Unix based OS with coding languages such as Python, Bash, and Fortran 90 to perform batch processing and statistical analysis of model fits to experimental data captured from Taylor anvil strength tests to evaluate simulation accuracy
- Presented outcomes of project including a reduction in model error of 10% for panel of managers and colleagues at the end of the summer

ESE Industries *May, 2015-Sept, 2015*
R&D, Process Engineer I *Jasper, GA*

- Organized and ran tests using various lab equipment to analyze carbon fiber for strength and performance using both destructive and non-destructive testing
- Used material test results to suggest possible process failures and recommended improvements
- Found key failure source and created production modifications that reduced imperfections by 99% and increased yield of manufacturing process

ESE Industries *Jan, 2015-May, 2015*
R&D, Mechanical Engineer I *Jasper, GA*

- Performed role of lead CAD designer and employed surface modelling techniques and parametric modelling in SolidWorks to make 3D drawings of production parts
- Set design specifications by using both ASTM standards for conventional OEM materials and material properties for carbon fiber
- Carried out both fluid flow analysis (CFD) and finite element modeling (FEA) for structural performance with consideration for design for manufacturability (DFM)

Relevant Projects

Strength of Randomly Oriented Fiber Matrix (Graduate): Created both a MACRO to create 3D matrix geometry following given distribution from MATLAB and implemented ANSYS APDL input deck to run FEA to compare RVE elastic modulus to experimental data

Machine Vision Laser Cutter (Graduate): Used OpenCV and G-Code in Python to make laser cutter follow real-time movements

Thermal Heat Distribution of Disk Brake (Undergraduate): Used MATLAB to implement 1D finite difference model to calculate heating of disk brake as a function of speed, car weight, and stopping distance

Leadership

Mechanical Engineering Graduate Association *Secretary*, **GT BAJA SAE** *Lead of Chassis Development*, **Experimental Methods Lab** *Graduate Teaching Assistant*, **Boy Scouts of America** *Eagle Scout*

Additional Skills

3D Modeling: CAD, CATIA V5, AutoCAD, Inventor, SolidWorks, Pro-E, CREO, NX, Sketchup, Dimensions, Clearances, Parametric Modelling, Creating Drawings, GD&T

Solid Mechanics and Failure Analysis: FEA, CFD, NX, CATIA V5, ANSYS, SolidWorks, COMSOL, LS-DYNA

Mathematical Coding: Linux, MATLAB, Fortran 90, Python, LAMMPS, ANSYS APDL

Manufacturing: Injection Molding, CNC, Rapid Prototyping, 3D Printing, Laser Cutter, Lathes, Mills, Controls, PLC