Benjamin Freeman

Email: benjamin.freeman2015@gmail.com
Website: freemanbenjamin.github.io

Summary

- **Materials Engineer with experience in 3D printing, advanced materials, and research settings**
- **Background in material properties, CAD, 3D printing, design, testing, R&D, prototyping, and engineering**

Experience

3D Print Bureau of Texas, Houston, TX — Jun 2018-Present

- 3D Printing Applications Engineer
- Utilize Solidworks, 3D Sprint, Stratasys Insight, and GrabCAD Print to convert customer files to 3D printing formats and make features more printing-friendly
- Provide knowledge of material properties and research new materials to improve printing capabilities
- Lead efforts for process improvement, documentation of printed parts, and inventory of materials
- Speak with customers to understand 3D printing needs, provide quotes, and communicate progress until project completion
- Manage multiple projects simultaneously to ensure timely delivery dates and that customer expectations are met or exceeded

3D Print Bureau of Texas, Houston, TX — Mar 2018-Jun 2018

- 3D Printing Technician responsible for maintenance, calibration and operation of eleven 3D printers (FDM, SLA, PolyJet, Multi Jet Fusion)
- Documented, post-processed, and shipped printed parts

University of Texas at Austin, Austin, TX — Aug 2015-Jan 2016

- Research Assistant for project studying Laser Ablation of Microparticle Aerosols
- Created SOP's, performed equipment maintenance, and operated laser and other equipment

Senior Capstone Design, Rice University — Aug 2014-May 2015

- Acted as team lead for project to design and fabricate a nanomechanical testing device for use in SEM
- Created CAD models, assisted in machining, worked with user to test and modify design

SpaceX, Los Angeles, CA — May 2014-Aug 2014

- Propulsion Intern – High Temperature Composite R&D
- Worked as part of an R&D team to create ceramic matrix composites for use as engine nozzle liners
- Performed CAD tooling design and 3D printing of tooling prototypes for filament winding operation to improve manufacturability and reproducibility of composite reinforcement architecture
- Developed a method and database to find carbon fiber tensile strengths

E. V. Barrera Group, Rice University — Dec 2012-Sep 2014

- Undergraduate Researcher for project to create and test new hypervelocity shielding materials
- Designed, fabricated, and analyzed composite materials composed primarily of carbon nanotubes, nanocrystalline aluminum alloys, and polymeric materials
- Operated two-stage light gas gun to test hypervelocity impact response of composite shielding materials for potential use in spacecraft

Education

Rice University, Houston, TX — Aug 2011-May 2015

- B.S. in Materials Science and NanoEngineering
- GPA: 3.65/4.00
- Relevant Coursework: Senior Capstone Design, Properties of Polymers, Junior Design, Metallography and Phase Relations, Mechanical Properties of Materials, CAD, Ceramics and Glasses, Crystallography and Diffraction, Nanoscience and Nanotechnology, Mechanics of Solids, Transport Phenomena in Materials Science, Organic Chemistry
- Rice Materials Science and Engineering Society Founder and President (Oct 2013-Apr 2015)

Technical Skills

Software: SolidWorks, Unigraphics NX, Autodesk Inventor, Python, HTML/CSS, Matlab, GrabCAD Print
Materials Testing and Characterization: Mechanical Testing (Tensile, Compression, Hardness), Optical Microscope, SEM
Fabrication Skills: 3D Printing, Compression Molding, Laser Cutting, VARTM, Lathe, Vertical Mill