Michael Forward

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Education

Northeastern University - Boston, MA *May 2021*

Candidate for Bachelor of Science in Mechanical Engineering.
Extracurricular Experiences: Generate (Chief Mechanical Engineer, Build Studio Engineer), ASME (Pilot Workshop Coordinator), Black Engineering Student Society, Northeastern Francophone Club.

Work Experience

Personal Freelance Work - Boston, MA | *Manufacturing insight* *Jan 2020*

- Remodeled manufacturing samples in a parametric manner to allow for effective design changes.
- Advised on manufacturing constraints for injection molded parts, such as draft angle and parting line location.

Eleven LLC - Boston, MA | *Product development Co-op* *Jul-Dec 2019*

- Collaborated with industrial designers to realize intuitive products, applying complex modeling techniques including surfacing.
- Optimized parts for a variety of manufacturing methods including injection molding, SLS printing, CNC milling, and emerging manufacturing techniques.
- Explored novel solutions for developing technology in a variety of fields for both start-ups and large companies.
- Spoke with vendors to assess manufacturing capabilities and constraints.
- Developed a design eye and an understanding for preserving design intent throughout the development process.

Coravin - Burlington, MA | *Mechanical Engineering Co-op* *Jul-Dec 2018*

- Designed fixtures in Creo 5.0 that isolated specific test parameters to obtain information to further develop current product lines.
- Identified and researched problems to better develop new and existing products, and created proof of concepts to assist in concept exploration.
- Learned fundamentals of designing parts for injection molding and Moldflow simulation software.
- Developed product renderings in Keyshot 7 to assign proper material properties; the renders were used to inform marketing decisions relating to color and finish.
- Fabricated prototypes with shop tools, including CNC mill, lathe, drill press, band saw, and various hand tools.
- Organized and cataloged design changes throughout the design process with Windchill PLM.
- Collaborated with a team of engineers where I was fully exposed to the product design process in a consumer products start- up.

Monut Snow - West Dover, VT | *Snowboard Instructor & Development Team Coach* *Winter 2014-Winter 2018*

- Coached future competition riders on technique and created specialized lessons for each student.

Technical Skills

SOLIDWORKS, Fusion 360, PTC Creo 5.0, 3D Printing (FDM, SLA, SLS), Arduino, MATLAB, C++, Microsoft Office, Upverter, EAGLE, HSMworks, AutoCAD, Adobe Illustrator, Blender (2.79b, 2.8), Keyshot 7, Windchill PLM.

Engineering Projects

Generate , Northeastern University's Student-Led Product Development Studio *Jan 2018-May 2020*

Carry Strong | Build Studio Engineer

- Designed internal resistance mechanism for portable workout device that could deliver 10-30lbs of resistance.
- Used robust modeling practices to create a highly agile model that could adapt to late stage design changes.

Perpetual Mobility | Build Studio Engineer

- Designed 3D printed molds to simulate an injection molding process for a silicone massage ball.
- Developed concepts for belt latching system that would allow for elastic and inelastic behavior.
- Created agile and robust models to allow for rapid iteration through Fusion 360's parameter editor which allowed for changes throughout the whole design process.
- Performed FEA and Moldflow simulations determine ball geometry and quantify observed behavior in physical prototypes.

AdDrive | Build Studio Engineer

- Collaborated with a diverse team of engineers to develop AdDrive, a location-based car advertising platform.
- Designed mounting systems for AdDrive using SOLIDWORKS and Fusion 360.
- Designed and fabricated prototypes using SLA and FDM 3D printers.