Jason Liang McGrath

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EDUCATION

Boston University Boston, MA — *January 2022*
Master of Science, Product Design and Manufacturing — *GPA 3.9/4.0*
Worcester Polytechnic Institute Worcester, MA — *May 2020*
Bachelor of Science, Mechanical Engineering — *GPA 3.7/4.0*
Minor: Robotics Engineering
Graduated, *Honors with Distinction*

Relevant Coursework

Advanced Product Design	Additive Manufacturing	Product Realization
Medical Robotics	Advanced CAD	Introduction to Robotics

TECHNICAL SKILLS

Hardware: Manual Mill, CNC Mill, Laser Cutter, Drill Press, Bandsaw, Hand tools, 3D Printing, Universal Robotics, Casting, Manual lathe, Arduino, Soldering
Software: SolidWorks, Creo, GibbsCAM, Esprit, C, MATLAB, Python, OnShape, Google SketchUp, Ruby

PROJECTS

EMG controlled pneumatic glove, Boston, MA — *September 2021 - December 2021*

- Created pneumatically actuated glove assisting in finger flexion
- Controlled by electromyography (EMG) sensor to identify user intention
- 3D printed mold and cast pneumatic actuators with Dragon Skin 20
- Integrated force sensor for haptic feedback

Wall mounted controller holder, Boston, MA — *January 2021 - May 2021*

- Developed wall mounted controller holder from ideation through EVT, DVT, and PVT
- Urethane casted dragon head, claws, and laser cut backplate
- Updated documents: Gantt chart, SOPs, BOM, FMEA, Specifications, Process, Tooling, and Quality test plan
- Outlined product packaging and mass production plan

Assistive Knee Device, Worcester, MA — *September 2019 - May 2020*

- Designed motorized knee brace to aid users when climbing stairs addressing a range of constraints including compact, lightweight, and aesthetically pleasing
- Simulated brace undergoing external forces to identify design feasibility in SolidWorks FEA
- Manufactured a prototype using ESPRIT and Haas mini mill

WORK EXPERIENCE

EPIC Labs, Boston University, Boston, MA — *June 2021 - December 2021*
Lab Assistant

- Trained students how to use various machining equipment
- Mentored students about CAD and CAM to ensure machinability of their projects
- Kept machine shop safe and clean

Stangl Associates, Engineering Consulting Firm, Amherst, MA — *May 2019 - August 2019*
Intern

- Modeled various process plant equipment
- Developed Ruby script to generate a y-type pipe in SketchUp
- Fixed Ruby script calculating the total weight of steel beams in SketchUp
- Visited client's facility to take 3D scans of plant equipment and surrounding infrastructure