Jason Liang McGrath

413-923-1201 | jasonmcgrath123@gmail.com | linkedin.com/in/jason-mcgrath/ | Somerville, MA

WORK EXPERIENCE

Stangl Associates, Engineering Consulting Firm, Amherst, MA *March 2022-April 2023,*
Mechanical Engineer *May 2019 - August 2019*

- Scanned plant equipment and surrounding infrastructure to be used in 3D modeling and understand any potential obstacles that would impede a client's project
- Modeled industrial equipment and buildings to understand and determine feasibility of client's project
- Modeled industrial equipment and infrastructure from manufacturing drawings
- Created drawings of modeled equipment and buildings to portray client's project to manufacturers
- Modified Ruby scripts to improve operation workflow in SketchUp

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

- Trained students to use various equipment to ensure safe and productive machining practices
- Mentored students through CAD and CAM software to ensure machinability of their projects
- Cleaned and organized machine shop to encourage a safe and efficient working environment

PROJECTS

EMG controlled pneumatic glove, Boston, MA *September 2021 - December 2021*
Created pneumatically actuated glove assisting in finger flexion

- Programmed an electro-mechanical system to activate once an electromyography (EMG) sensor identified muscle activation
- Printed mold and cast pneumatic actuators used to assist finger flexion
- Programmed force sensors for user 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

- Modeled knee brace in SolidWorks to optimize design
- Simulated brace undergoing external forces to identify design feasibility in SolidWorks FEA
- Manufactured a prototype using ESPRIT and Haas mini mill

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, Manufacturing Strategy, Automation and Manufacturing Methods (TA)

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, SketchUp, Ruby