EMMA GRIFFITHS

CONTACT

emmaleegriffiths4@gmail.com

(774) 278 8769

EDUCATION

MIT `21 – 4.6 GPA

Bachelor of Science in Materials Science and Engineering

Topics in mechanics/structural materials, synthesis/processing, electronic and magnetic materials, software/hardware engineering, presentation/performance, robotics, project design/fabrication, and human computer interaction. Undergraduate thesis completed.

Hopkinton High School

Class of 2017

LANGUAGES

English *native*

Mandarin Chinese *college level*

summer research internship 2019, NTU, Taiwan

SOFTWARE

Python - Fusion360

Unity/C# - Mathematica

Eagle - Rhino

ADDITIONAL SKILLS

AR/VR Unity Design

AI/ML with Python

Product Design

Fabrication

3D Modeling/Circuit Design/Machine Proficiency

Technical Writing and Communication

Presentation/Public Speaking

Teaching/Instruction

Data Analysis

User Interface Design

EXPERIENCE – INDUSTRY

Lockheed Martin Space *April 2022 - Now*

Materials Engineer

- Project lead in charge of Space implementation of company-wide material database, working directly with stakeholders to incorporate feedback, work planning and delegation for a team of 10
- Lead for statistical process control implementation for polymer and metal additive manufacturing, making it easier to track machine health and predict out of control behavior before costly and time consuming failures occur, including the creation of a custom data tracking dashboard
- Led additive manufacturing tool effort to sweep part databases and identify which are potential additive manufacturing candidates, which will lead to cost, time, and weight savings for programs. Focus on increasing tool exposure throughout the company and tool ease-of-use, including the creation of a tool web-based user interface
- Partnered with the Collaborative Human Immersive Lab (CHIL) to develop an augmented reality Unity application to keep track of item storage locations in a flight cabin
- Classes completed in composite materials, additive manufacturing, and artificial intelligence/machine learning including a final project implementing anomaly detection for a multi-class image dataset

Lifespans, Ltd. *2021-2022*

Simulation Engineer

- Designed and ran particle-based simulation tests for orthopedic implants that can provide accurate force results less expensive and more quickly than in-person labs to aid in the implant prototyping process
- Designed and implemented Python packages using GitHub to improve the simulation workflow efficiency
- Worked directly with top orthopedic implant design companies, including hosting a booth at the American Academy of Orthopedic Surgeons conference, to learn about industry needs and incorporate stakeholder feedback

EXPERIENCE – RESEARCH

Bioelectronics Group *2019-2020*

Undergraduate Researcher *MIT Research Lab of Electronics*

- Fabricated soft/flexible, implantable and autonomous bioelectronic devices to test the efficacy of light stimulation for spinal cord repair and intrinsically stretchable bioelectronic devices for interfacing with the central and peripheral nervous system to better understand the communication between the gut and brain
- Developed mechanisms to test the performance of the devices and performed quality control

Human Systems Laboratory *2018-2019*

Undergraduate Researcher *MIT AeroAstro*

- Developed gestural controls for SPHEREs satellites, making it possible to interface with and control the satellites with Microsoft HoloLens augmented reality via Unity in order to investigate how immersive technology can improve an astronaut's spatial awareness
- Designed training program to onboard users with the SPHEREs/HoloLens technology

EXPERIENCE - ADDITIONAL PERSONAL/CLASS PROJECTS

MIT - How to Make Almost Anything - 4.140 *Fall 2020*

- Digital fabrication overview, covering CAD, CNC machining, 3D printing, molding/casting, laser cutting, PCB design and fabrication, sensing, embedded processing, and wired and wireless communications
- Final project was the creation of a self teaching guitar, a CAD-designed and laser cut body with custom LED fretboard and a wifi-connected web app to guide new guitarists through chords and songs

MIT - Robotics: Science and Systems - 6.141 *Spring 2021*

- Topics included lidar sensing, kinematics, state estimation, computer vision, perception, learning, control, and motion planning for autonomous vehicles and robots
- Final project was a team challenge to navigate an obstacle course and race track using custom algorithms for perception and autonomous, real-time navigation and control

EXPERIENCE – LEADERSHIP/OTHER

Night Lights Volunteer *2023-2024*

- Monthly role providing free respite care for children who have special needs and their siblings to give parents and caregivers the opportunity and time to take care of themselves and refresh