

# Kevin O'Neill

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## EDUCATION

**CARNEGIE MELLON UNIVERSITY**  
MS IN MECHANICAL ENGINEERING  
Expected Dec. 2020 | Pittsburgh, PA

**CARNEGIE MELLON UNIVERSITY**  
BS IN MECHANICAL ENGINEERING  
MINOR IN POLITICAL HISTORY  
Dec. 2019 | Pittsburgh, PA

## COURSEWORK

### Engineering

24-671: *Electromechanical System Design*  
24-652: *Mechanical Properties of Engineering Materials*  
24-673: *Soft Robotics: Mechanics, Design and Modeling*  
24-441: *Engineering Design 2*  
24-689: *Modern Manufacturing*  
24-371: *Design of Machine Elements*  
24-322: *Heat Transfer*  
24-352: *Dynamic Systems and Controls*

### Mathematics

24-311: *Numerical Methods*  
36-220: *Engineering Statistics and Quality Control*

### Computer Science

15-112: *Fundamentals of Programming and Computer Science*  
15-122: *Principles of Imperative Computation*

## SKILLS

### MANUFACTURING

Laser Cutting • 3D printing • Lathe • Mill • Drill Press • CNC Mill • Silicone Molding • MIG welding • Soldering • General Wood Shop

### SOFTWARE

SolidWorks • NX • PTC Creo Fusion 360 • Python • C • Matlab • Ansys

## PERSONAL WEBSITE



## EXPERIENCE

### RELATIVITY SPACE | ADDITIVE HARDWARE INTERN

June 2019 – August 2019 | Los Angeles, CA

- Designed, manufactured, and tested equipment for print quality improvement in collaboration with weld engineers, material scientists, and automation engineers.
- Utilizing FEA, designed and manufactured large scale tooling allowing for 8 foot diameter prints given weight and deflection constraints.

### RELATIVITY SPACE | MECHANICAL ENGINEERING INTERN

June 2018 – August 2018 | Los Angeles, CA

- Created mounting hardware and installed welding, grinding, and sensor equipment on the printer.
- Designed and sourced large scale tooling allowing for 7 foot diameter prints.

### GE ADDITIVE | ENGINEERING INTERN

June 2017 – August 2017 | Cincinnati, OH

- Documented standard operating procedures and safety hazards for a new metal powder printer. This document is now the template for future systems developed by GE Additive.
- Designed and manufactured a prototype for more automated powder removal from finished metal powder builds.

### AGONIC DEVELOPMENT | Co-FOUNDER

January 2017 - Present | Minneapolis, MN

- Co-founded healthcare device company with the goal of improving patient outcomes through remote monitoring post operation.
- Responsibilities include: physical design, prototyping, manufacturing, and communicating with hospitals and physical therapists

### TEACHING ASSISTANT | DESIGN 1

August 2018 - Present | Pittsburgh, PA

- Developed new class project as well as designed and manufactured testing rig.
- Held office hours and recitations to assist students with course material, homework, and the class projects.

## PROJECTS

### GRIPPER | DESIGN 1 PROJECT 2

October 2018 - November 2018

- Collaborated with a team of three to design and create a gripper to hold an object during dynamic loading.
- Produced a gripper with a mass of 23.4 grams which was best in the class and over 17 grams lighter than the next gripper.

### BRACKET | DESIGN 1 PROJECT 1

September 2018 - October 2018

- Designed and manufactured a laser-cut bracket to hold 25 lb of weight.
- I produced a bracket that weighed 0.72 grams by utilizing Finite element analysis and by testing multiple prototypes.
- My bracket was the lightest in the class of 120 by almost 10%

### PLASTIC SHREDDER | MODERN MANUFACTURING PROJECT

March 2019 - May 2019

- Collaborated with team of three to develop and manufacture a miniature plastic shredder.
- Powered by a drill, the shredder is able to shred thin plastic to be used in an injection molder.