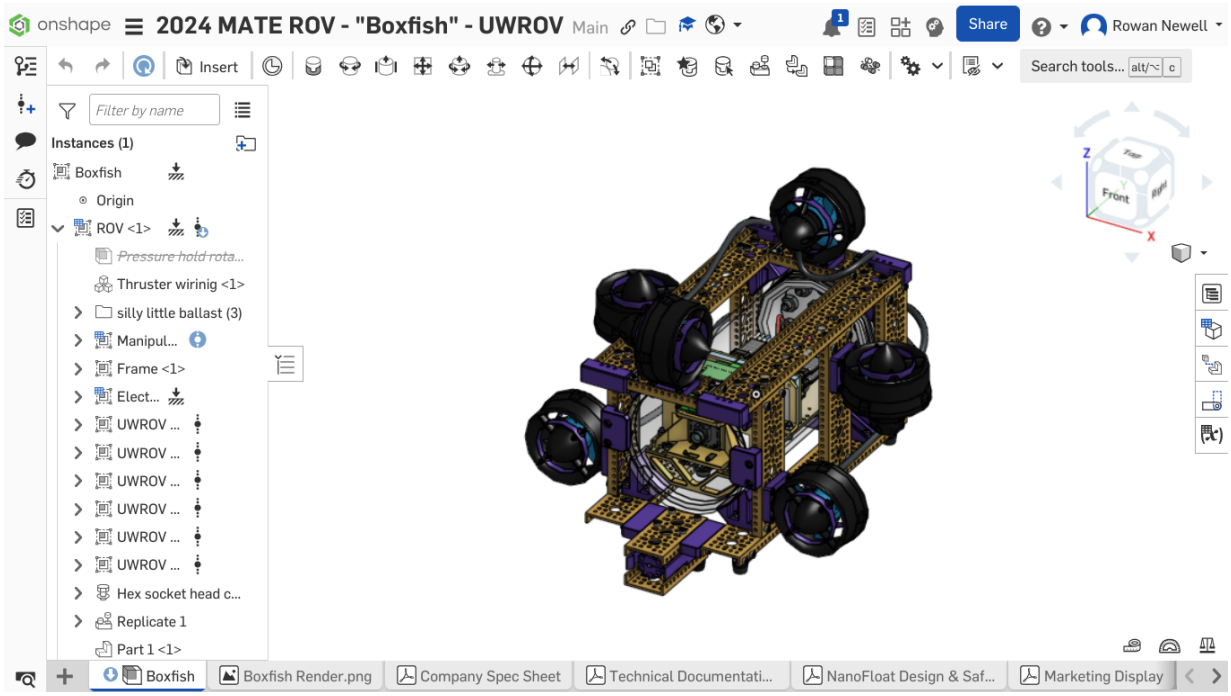
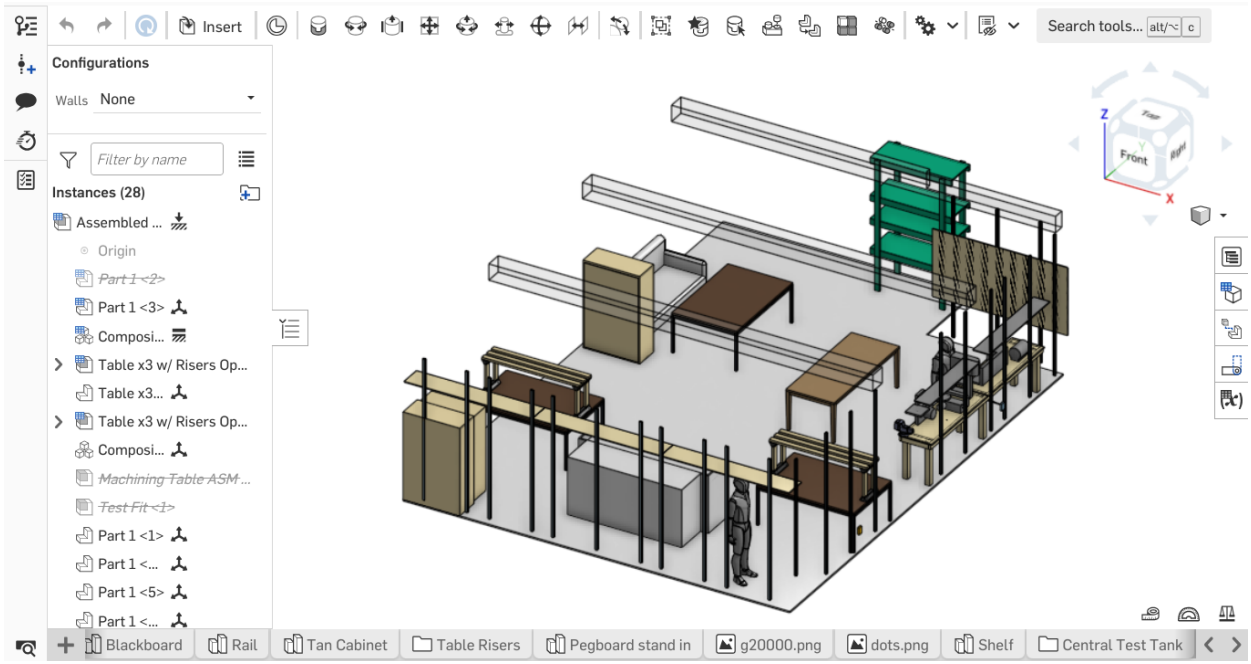
CAD Examples of Work - Rowan Newell

Familiarity with Large Scale Assemblies

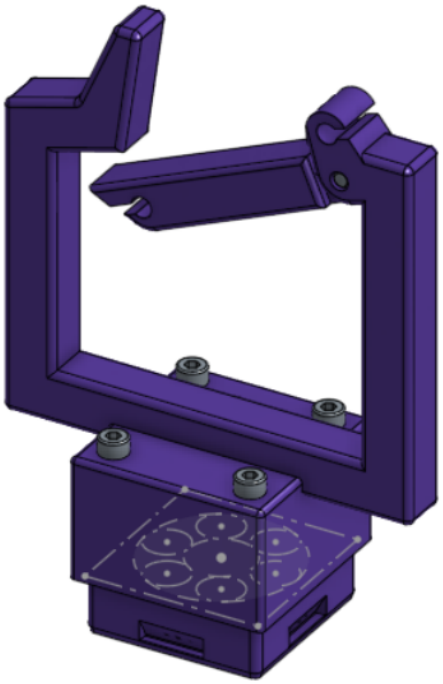
Through larger team work, such as with robotics, I have gained familiarity and experience in working with large scale assemblies. Examples include 2024 ROV CAD and Room Layout CAD (Unlinked, link available upon request).





<u>Various Manipulators</u> (Unlinked, links available upon request)

Designed and prototyped various manipulators as a member of an underwater robotics team called UWROV. The two examples shown here had moving parts which were modeled in assemblies as mechanical mates.



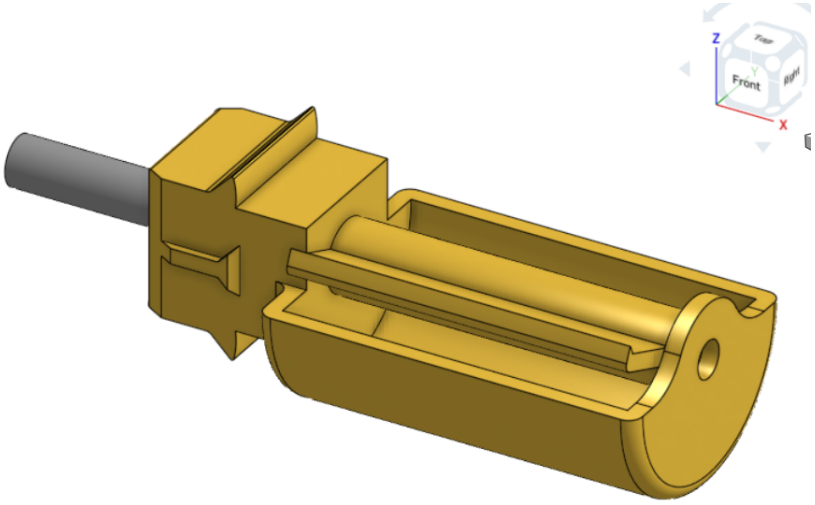
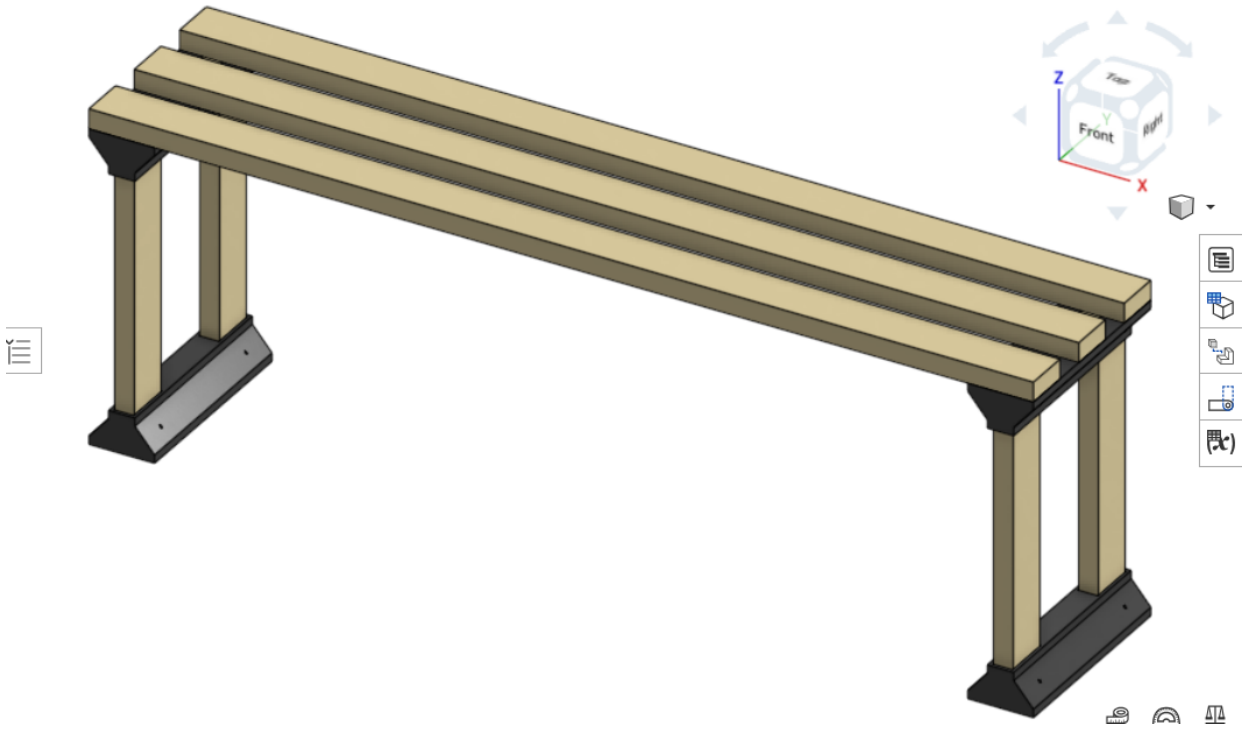


Table Risers (Assembly) (Unlinked, link available upon request)

Modeled after physical object using real-world measurements.



Working with Technical Drawings

Documentation available upon request

I have experience reading, creating, and creating models from technical drawings through CAD focused classes at the University of Washington, which follow ANSI standards. I also have experience in working in CAD programs other than Onshape, including Solidworks and Autodesk Inventor.

Custom Features

Add Blinds

Based on configurable blinds (detailed below), created a custom feature to add blinds to any rectangular window. These blinds are adjustable in height.

AB **Add Blinds**

Created by:

Rowan Newell

Description:

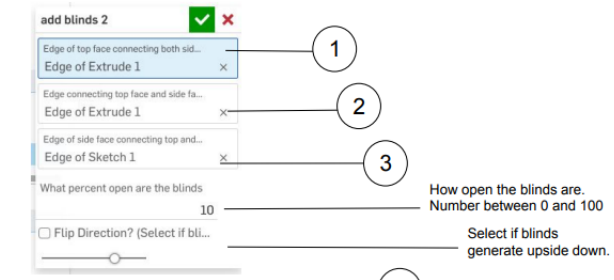
This custom feature adds blinds to rectangular windows. The height of the blinds can be adjusted.

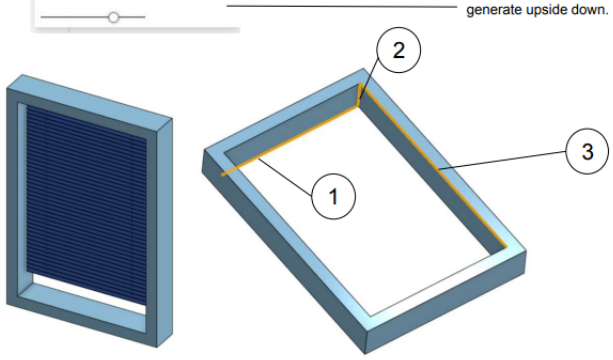
Prerequisites:

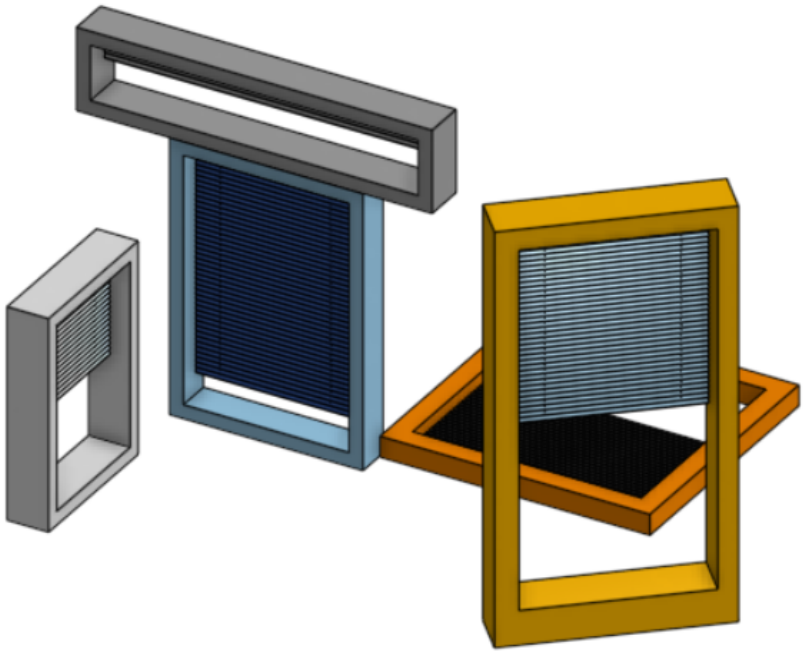
Rectangular window slot with selectable edges on the top and side faces.

Notes:

1. Line 2 must connect to line 1 and line 3, or there may be errors in generation.
2. Hope to add more functionality in the future, including the option to change the angle of the blinds.

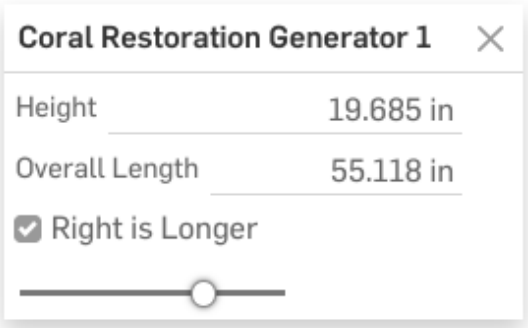


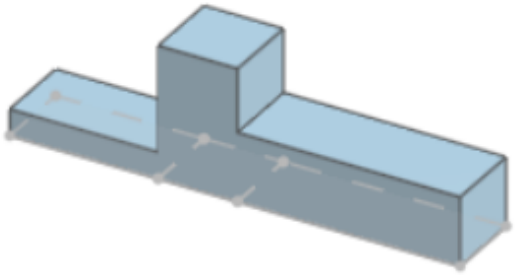




Coral Restoration Area

Created a custom feature to create a model as a way of quickly completing a task at a robotics competition.

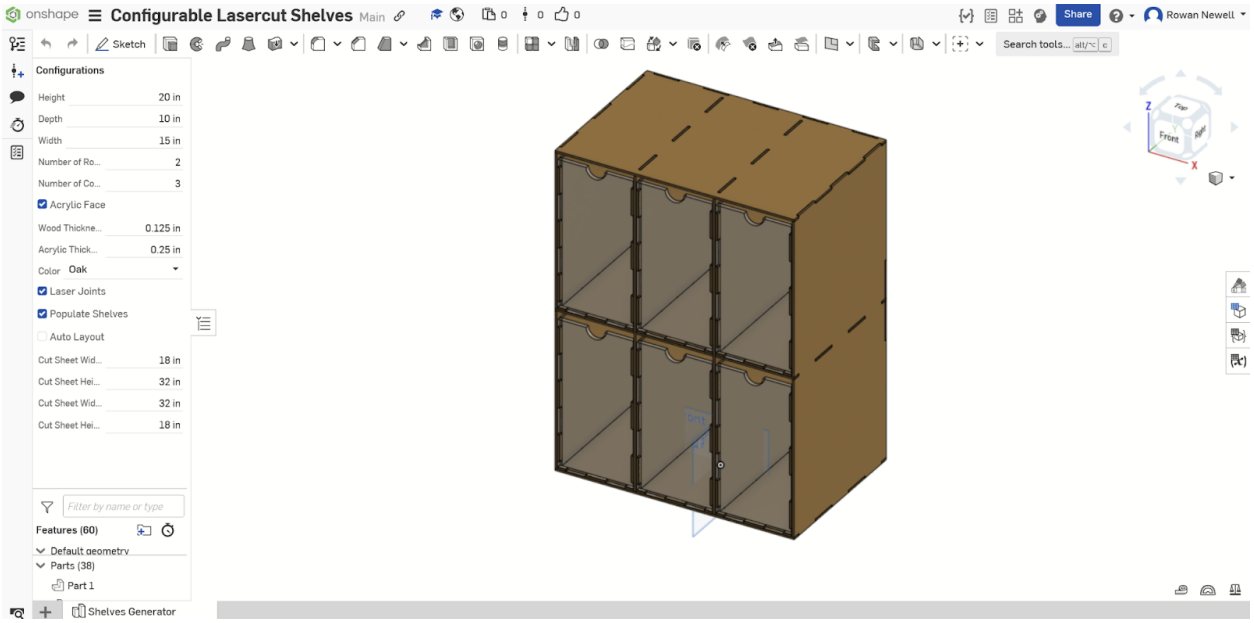


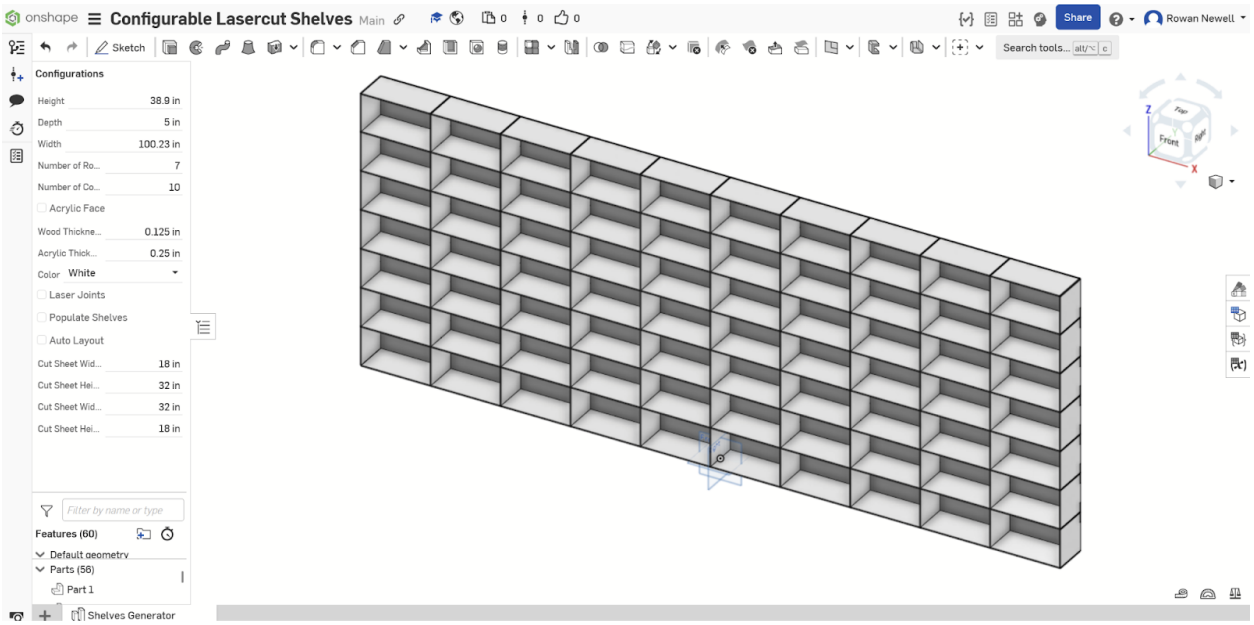


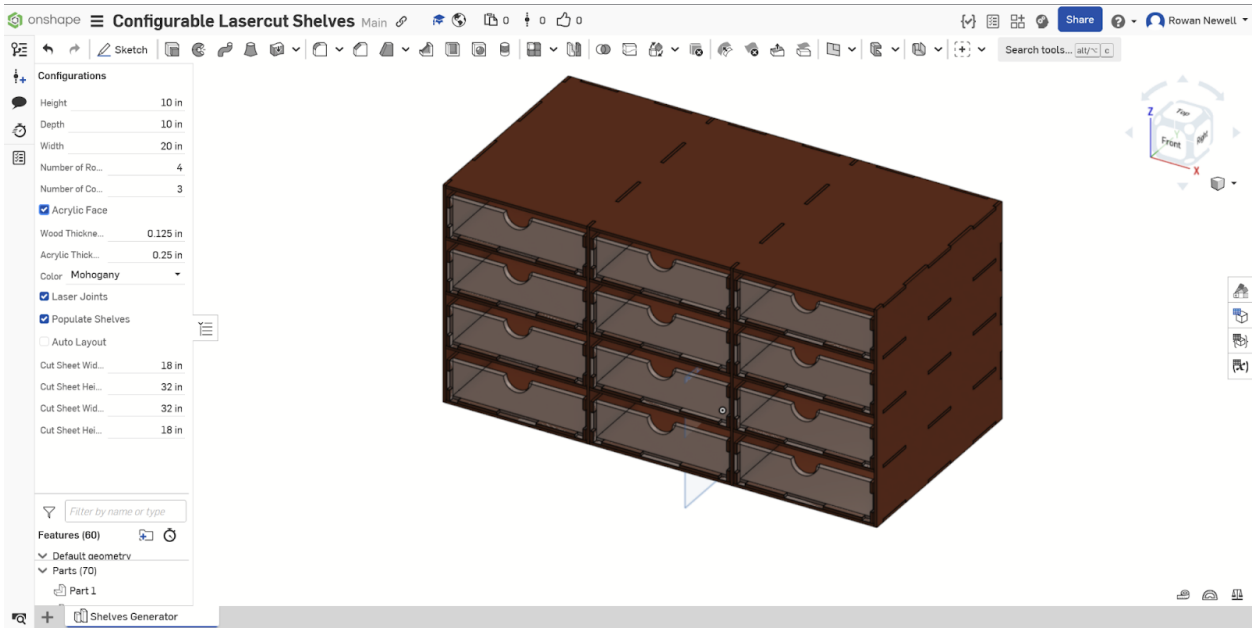
Configurable Documents

Configurable Laser Cut Shelves

Modeled a configurable shelf with options to change dimensions, numbers of rows and columns, colors, use of drawers, use of acrylic drawer faces, as well as options to automatically add laser cut joints and layout the pieces to be laser cut.



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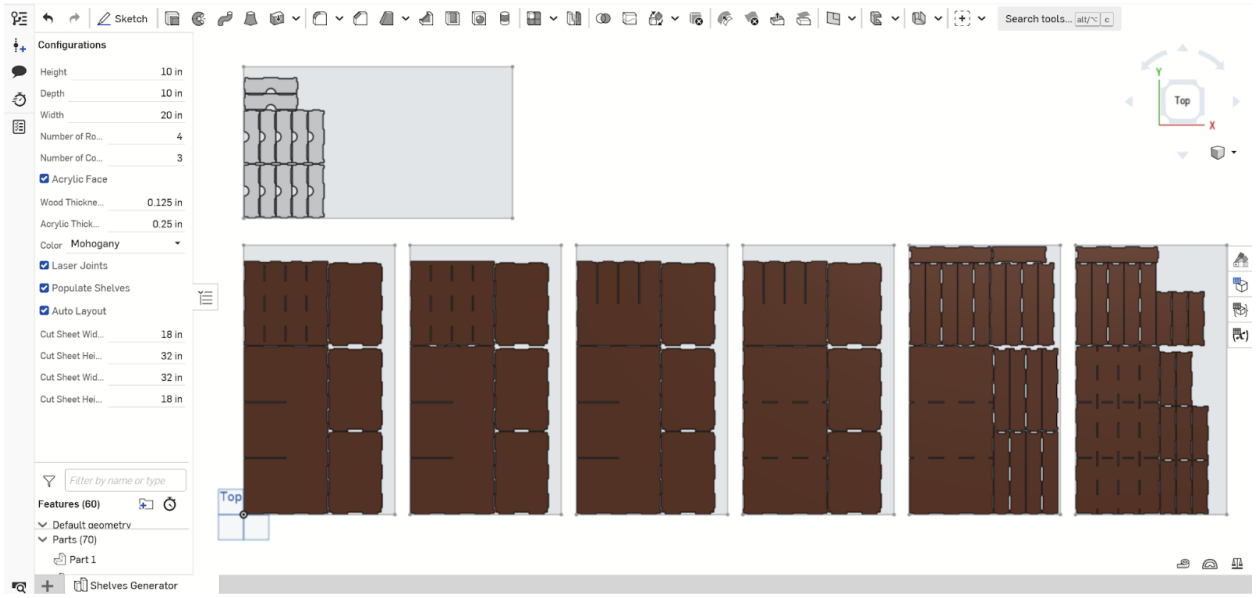
Configurable Lasercut Shelves
Main
Share
Rowan Newell
Sketch
Search tools...
Configurations
Height 10 in
Depth 10 in
Width 20 in
Number of Ro... 4
Number of Co... 3
Acrylic Face
Wood Thickne... 0.125 in
Acrylic Thick... 0.25 in
Color Mohogany
Laser Joints
Populate Shelves
Auto Layout
Cut Sheet Wid... 18 in
Cut Sheet Hei... 32 in
Cut Sheet Wid... 32 in
Cut Sheet Hei... 18 in
Filter by name or type
Features (60)
Default geometry
Parts (70)
Part 1
Shelves Generator
Right
Front
Top


Sketch
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Height 10 in
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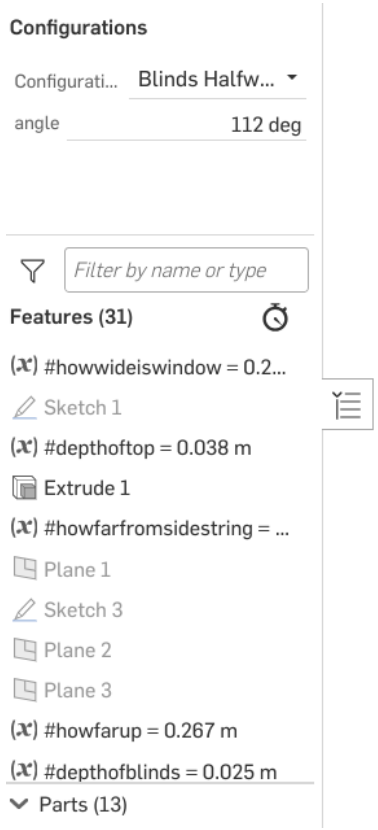
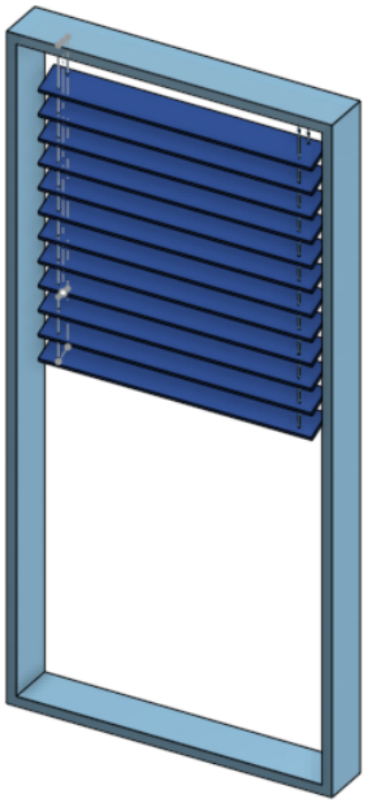
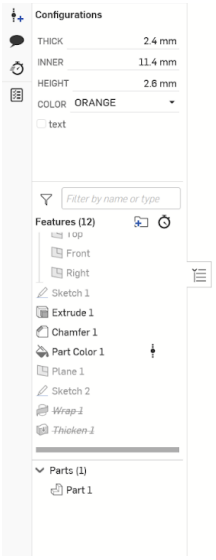
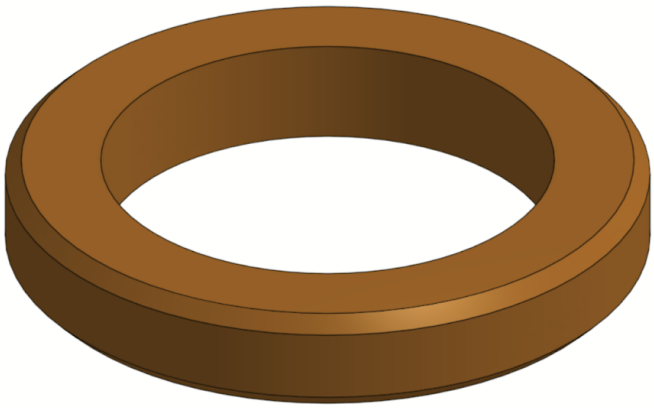
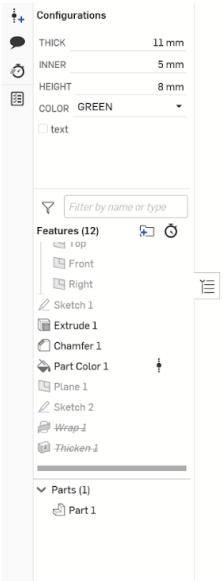
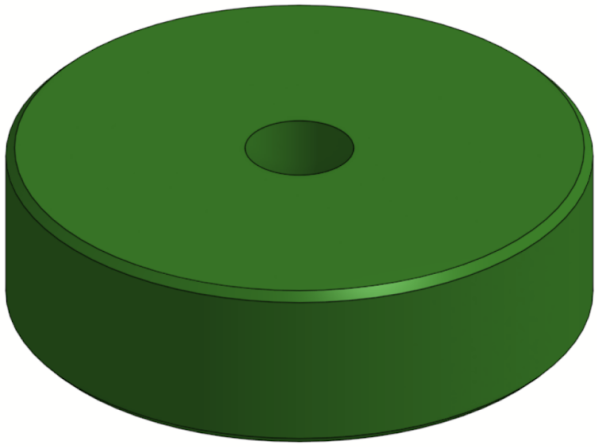
Filter by name or type
Features (60)
Default geometry
Parts (70)
Part 1
Shelves Generator
Top
Top

Configurable Blinds (Also underneath “Manual Model” of the Add Blinds document)

The manually modeled version of the “Add Blinds” custom feature. These blinds have configurable length as well as angle.





<u>Configurable Spacers</u> (Unlinked, link available upon request)

Configurable spacers meant to be 3D printed and used in a wide variety of applications. Configurable in radius, thickness, height, and color.