

# Katherine Paseman

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## digital portfolio



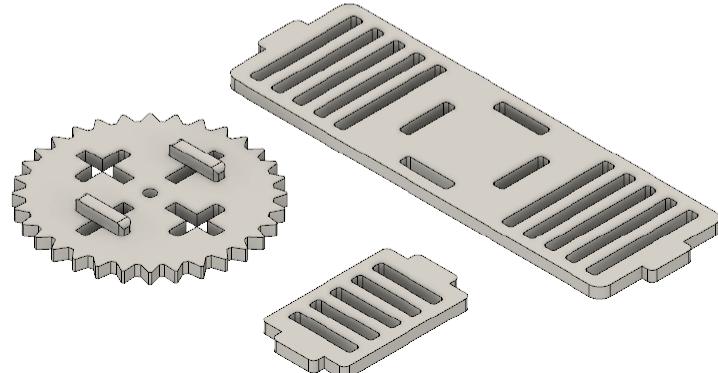


## hard skills

roominate is a wired construction toy designed to get girls more interested in STEM through open ended play.

## rapid prototyping

roominate R&D ongoingly explored engineering concepts like motors, fluid dynamics, pulleys, and gears at the roominate scale. Some of these successful prototypes eventually became products, like the RV pictured. This was one of my favorite parts; it was like a mini project every day.



## new part design

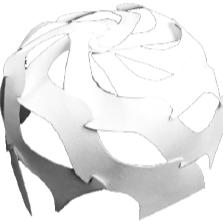
In the process of generating new SKUs, it would become clear that new parts were required for the success of a new product. There's a balance in designing parts that are versatile enough to promote open ended play that are also functional enough to operate in specific engineering applications. I would CAD, 3D print, play test, and iterate on these designs.

# briar

briar was an 8'x8'x10' pavilion I designed and constructed in 2 weeks. It taught me that I can make things bring joy to people I know and care about.



1:16 | paper



1:8 | paper



1:4 | polystyrene

briar uses no adhesives or fasteners; it stands using only the compressive force between its petals. This pavilion was exciting to design because of the short, two week deadline and the variety of skills that were developed. The project originated in an exploration of shape grammars. Through iteration in various materials across scales and forms, I successfully generated a freestanding, interlocking structure

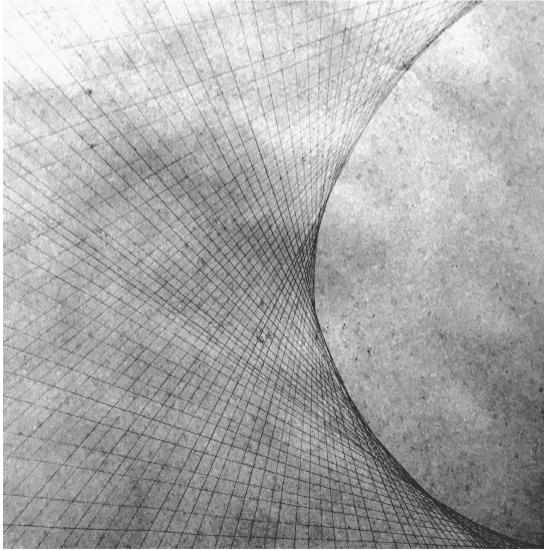


1:1 | digital model

1:1 | full scale test

# aesthetics of calculus

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aesthetics of calculus is a series of models inspired by curve fitting: a technique that uses linear elements to approximate organic shapes. Through each of these models, I developed novel techniques for materials such as paper, piano wire, and museum board. I'm excited about the opportunity to apply these techniques in new applications going forward.

