

# Soft Crawling Robot



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## Background

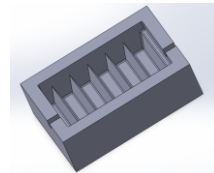
Soft robotics is a field of robotics that uses soft materials such as silicone rubber to build robots. These materials provide flexibility and agility that allow the robots to perform challenging tasks in tight and complicated environments. Soft robots have different methods of actuation, such as pneumatic, hydraulic, and electromagnetic actuation. Soft robotics can be applied to various fields, including healthcare, disaster relief, and industrial automation.

## Objectives

- Soft crawling robot
- 4 legs using pneumatic actuation
- Legs should provide enough strength to support and move the whole robot
- Able to go straight and turn left and right
- Each of the legs can be independently controlled

## Methods

CAD



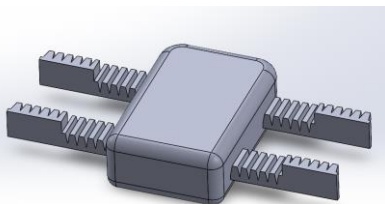
3D  
Printing



Injection  
Molding



## Results and Discussion



- CAD model of robot assembly
- Legs of the robot are injection molded

## Future Work

- 3D print main body and assemble the robot
- Attach a camera at the front to let it detect its surroundings