

## Design and construction of a gripper



Due to its evolution and development of opposable thumb, human hands can grasp and manipulate a variety of objects with strength and control. Gripping is such a trivial task that we do not even think much. However, this function is not as easy for a robot to perform because of some objects' complex geometry, the torque need it to manipulate it and the fixed design of the gripper. Thus, a gripper is usually designed to manipulate a determined shape and size of an object and that is why there is a variety of gripper designs nowadays. This project will involve (a) designing an adaptive gripper to manipulate small objects with a variety of shapes (b) choosing the best manufacturing process, actuators, and sensors and (c) finally, assembly of the gripper and testing it with common objects.

Some directions with which you could start this project:

- Design a compliant mechanism for the gripper
- Use 3D printer to manufacture it

**Requirements:** CAD software knowledge

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**Course number:** CS4999/CS5999/ MAE4900/MAE6900

**Credits:** 3-4

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