



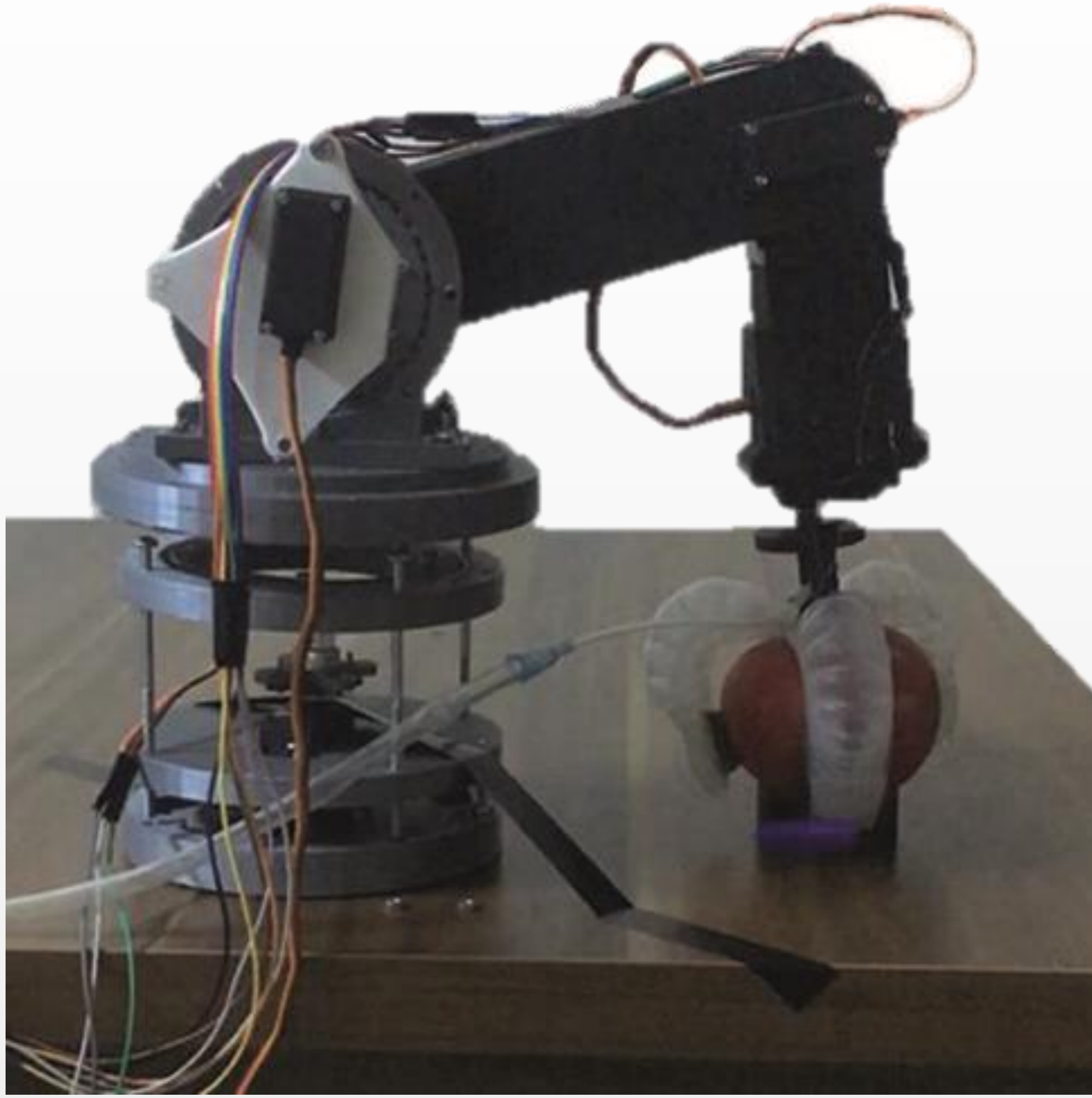
# Robotic Soft Gripper

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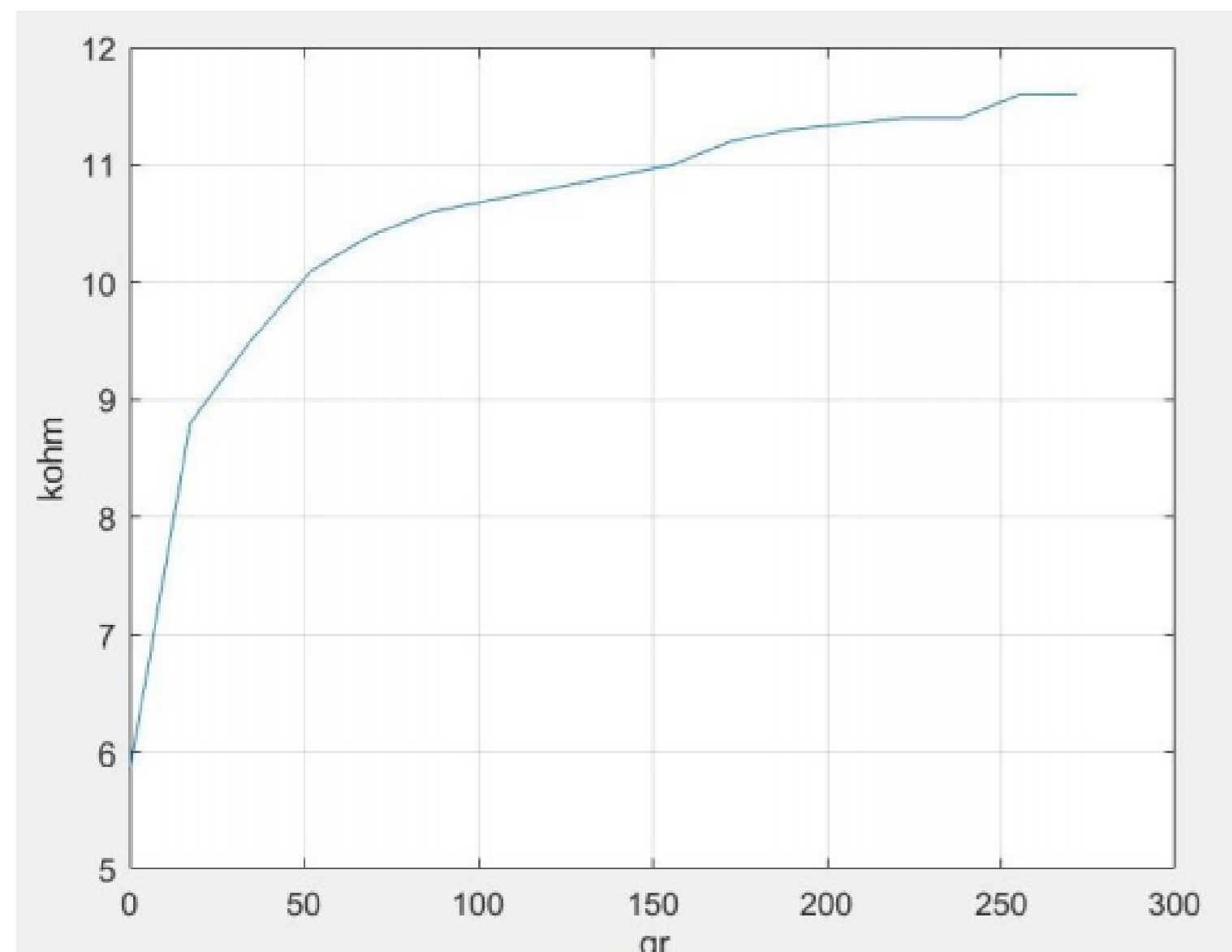
## Introduction

Robotic grippers and arms, which are sub-branches of robotic systems formed as a result of the cooperation of various fields of engineering were initially used as auxiliary staff in places where manpower was not sufficient, and day by day they became self-operating without the need for manpower.

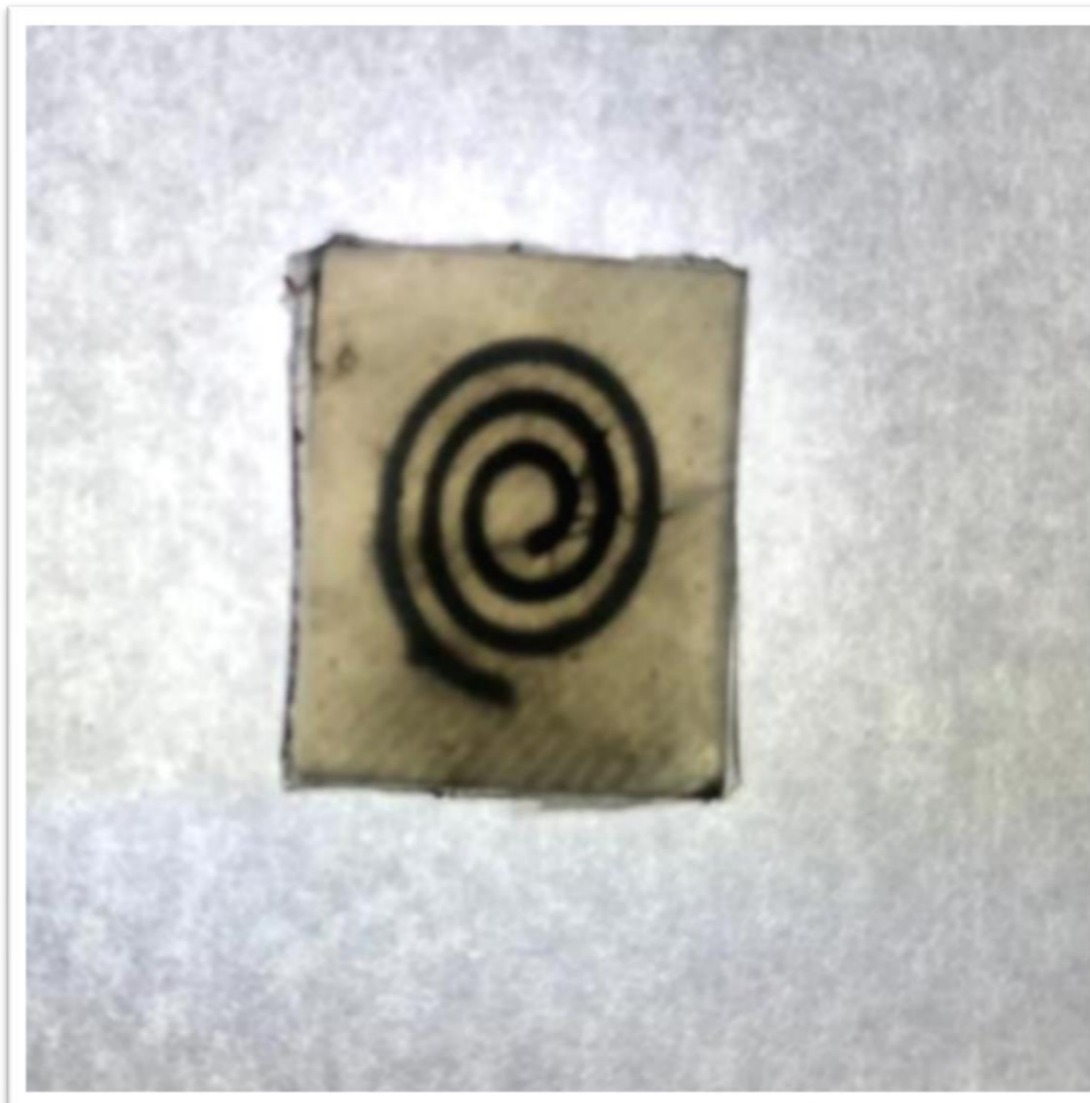
## Project Description

Soft robotic structures aim to mimic or represent natural systems by accomplishing highly complex and continuous motions such as bending, stretching or twisting. Due to these complex movements, a soft robotic body does not present a well-defined number of degrees of freedom, therefore, unlike conventional rigid robots, soft robots do not have widely agreed models. As a result, designing such soft robotic structures is extremely challenging. One of the major challenges involves replacing the two key functions of such a structure, namely sensing and actuation.

SENSOR CHARACTERIZATION TABLE



SENSOR DESIGN



ACTUATOR PART



## Conclusion

In the developing markets on the world, there has been a great interest on soft robotics which must operate on the production or transferring lines with high accuracy without damaging the material. Therefore, Soft robotic solutions have been the major subject over the decade. As for our solution, we have designed a soft gripper robot which consists of three soft pressure sensor and five motor to drive the robot in four axes. For a soft gripper to be considered as operational, it must cover the object regardless of the shape of the object and also carry with high accuracy, we are proud to come up with a solution to meet the requirements.

