



# MechMonsters

Submitted to Dr:Hossam H.Ammar





# "Pick and Place by Color Detection using uArm Robot"

## Team Members

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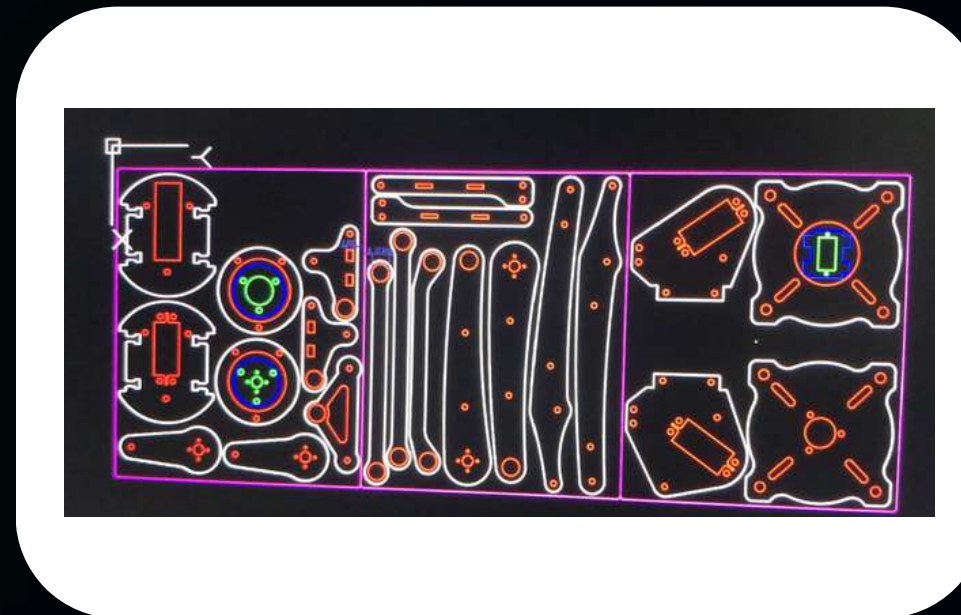


# Project Overview

## Phase 1



**CAD SOFTWARE**



**Laser Cutting**



**Assembly**



# Project Overview

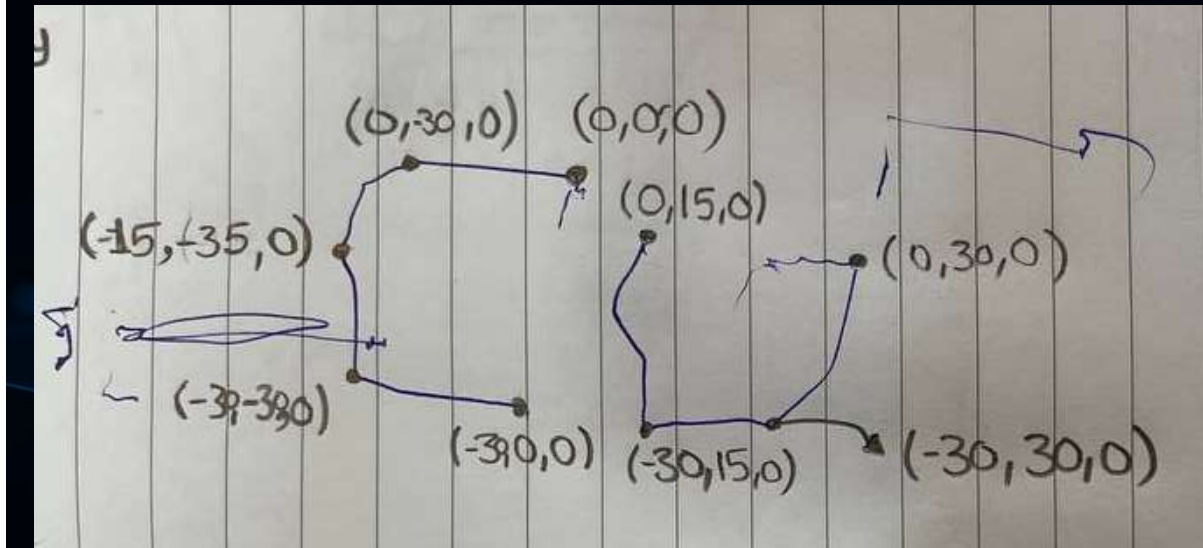
## Phase 2



**3 Servo motors setups**



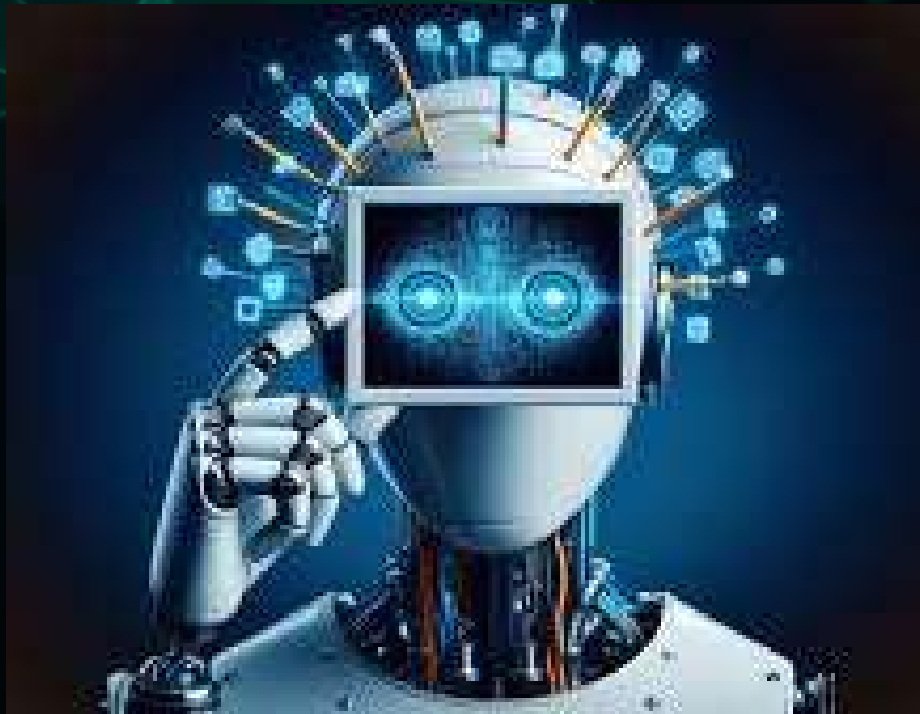
**3 SERVO MOTORS CONTROL  
USING ESP32-CAM**



**Writing CU  
"Cairo University"**

# Project Overview

## Phase 3



**Application selection**



**Application Applying**



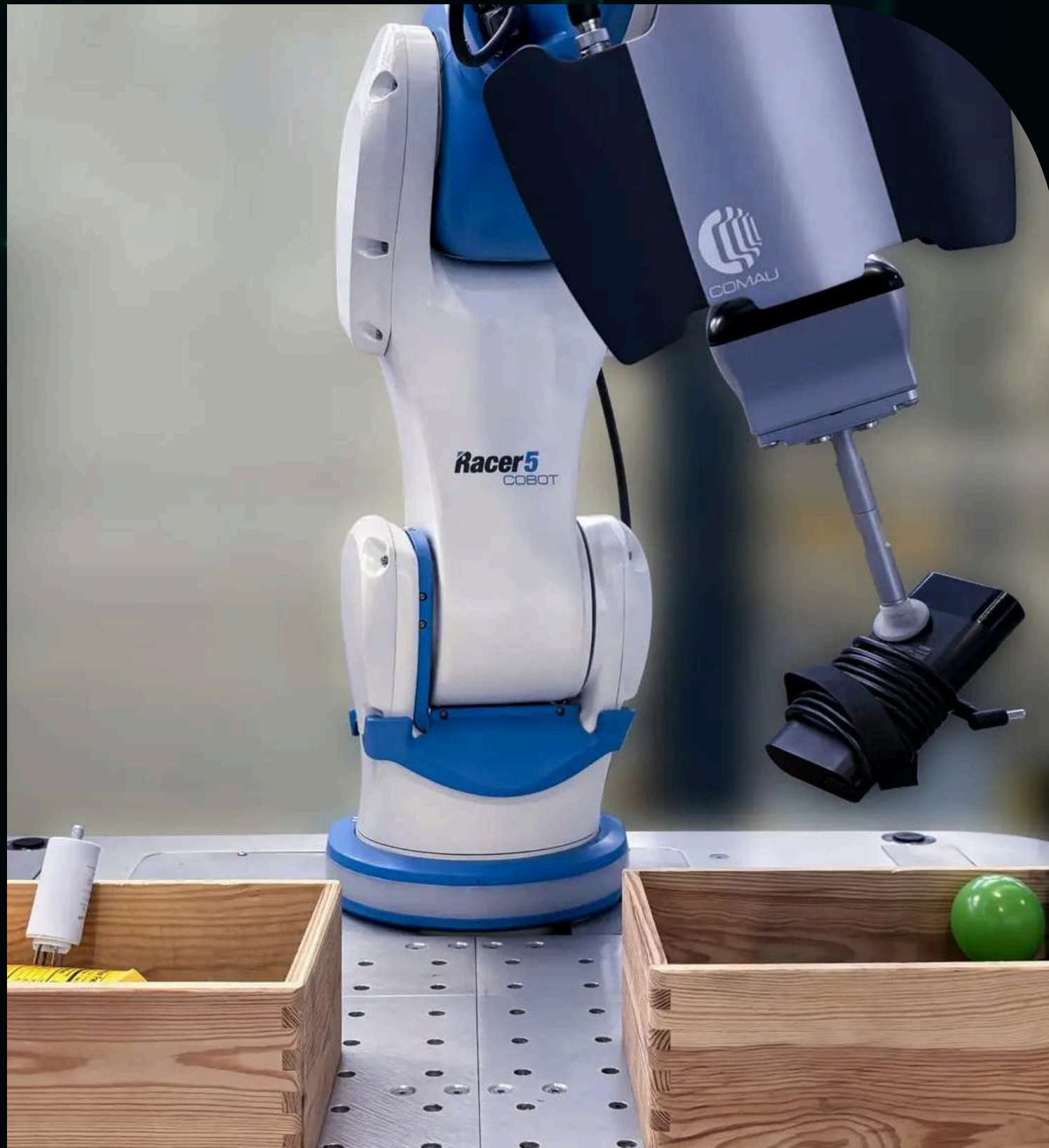




# Application selection

- **Autonomous**
- **Solving problem**
- **Related Sensors**





# Application applying

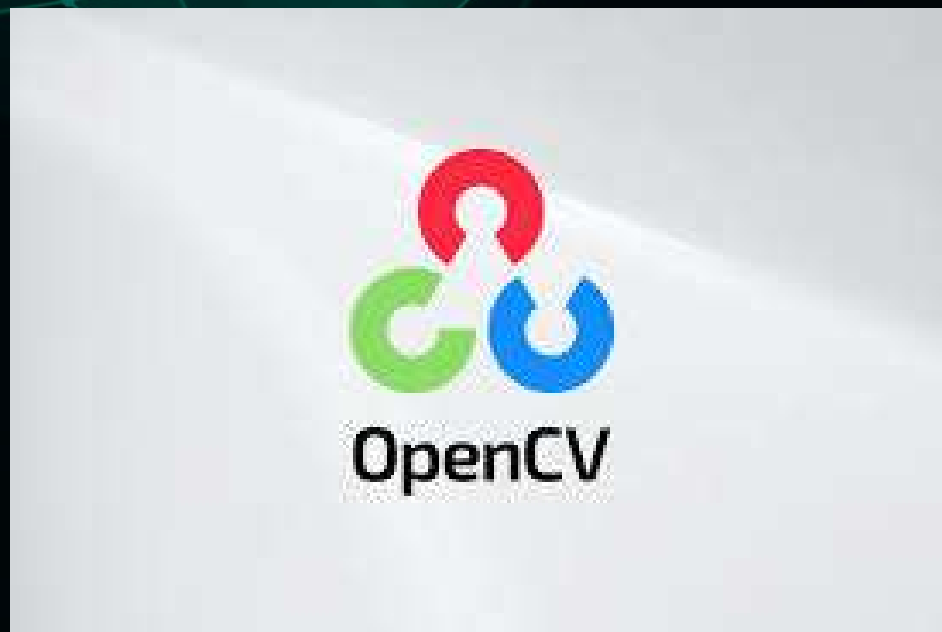
- 1-Color Detection of product
- 2-pick & go based on color detection
- 3-maintainability by LDR sensor
- 4-End effector design & manufacturing



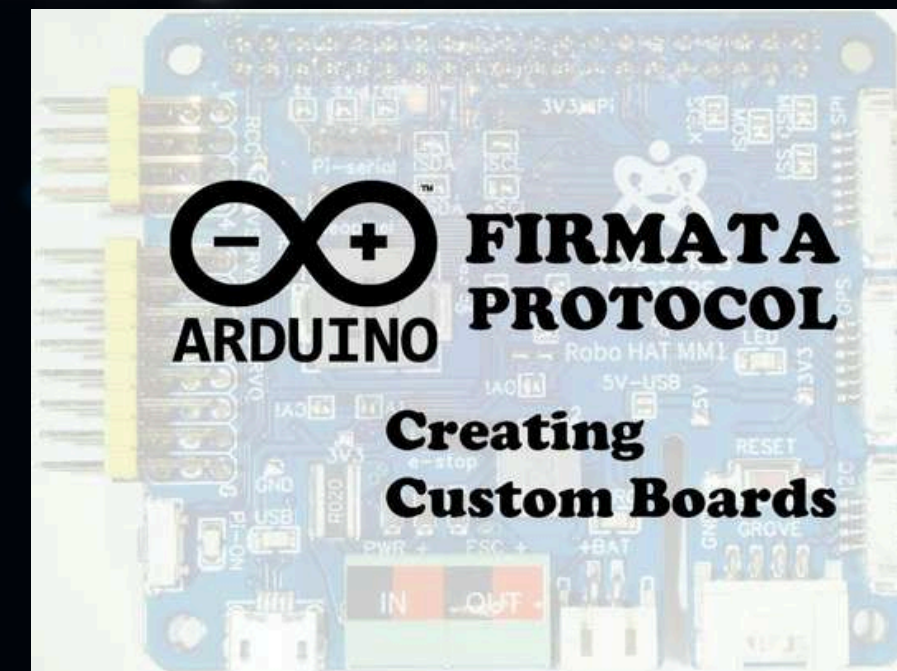


# Application applying

## 1-Color Detection of product



**-Using AI python libraries**



**-Linking Micro controller with AI-  
PYTHON LIBRARIES**

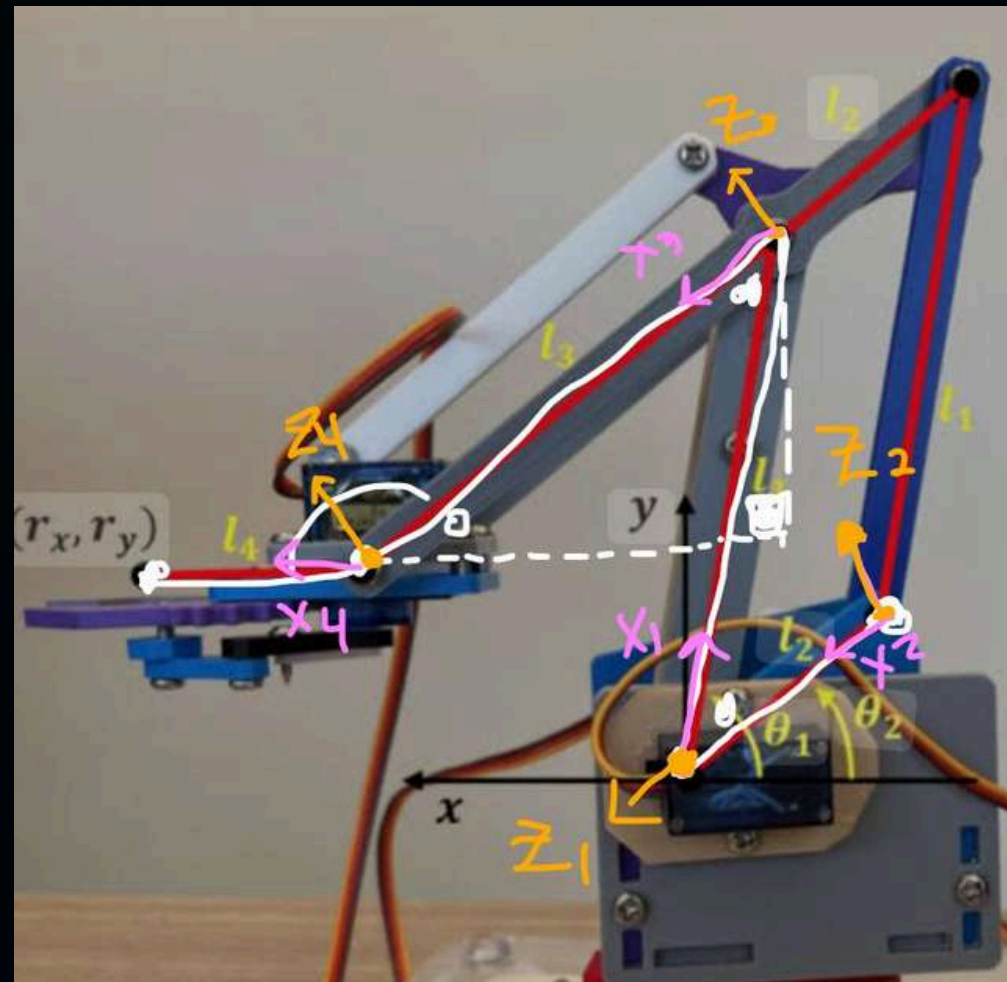




# Application applying

**2-pick & go based on color detection**

**Forward Kinematics**



**Inverse Kinematics**





# Application applying

## **3-maintainability by LDR sensor**

1-Why LDR Sensor?

2-Recommendations

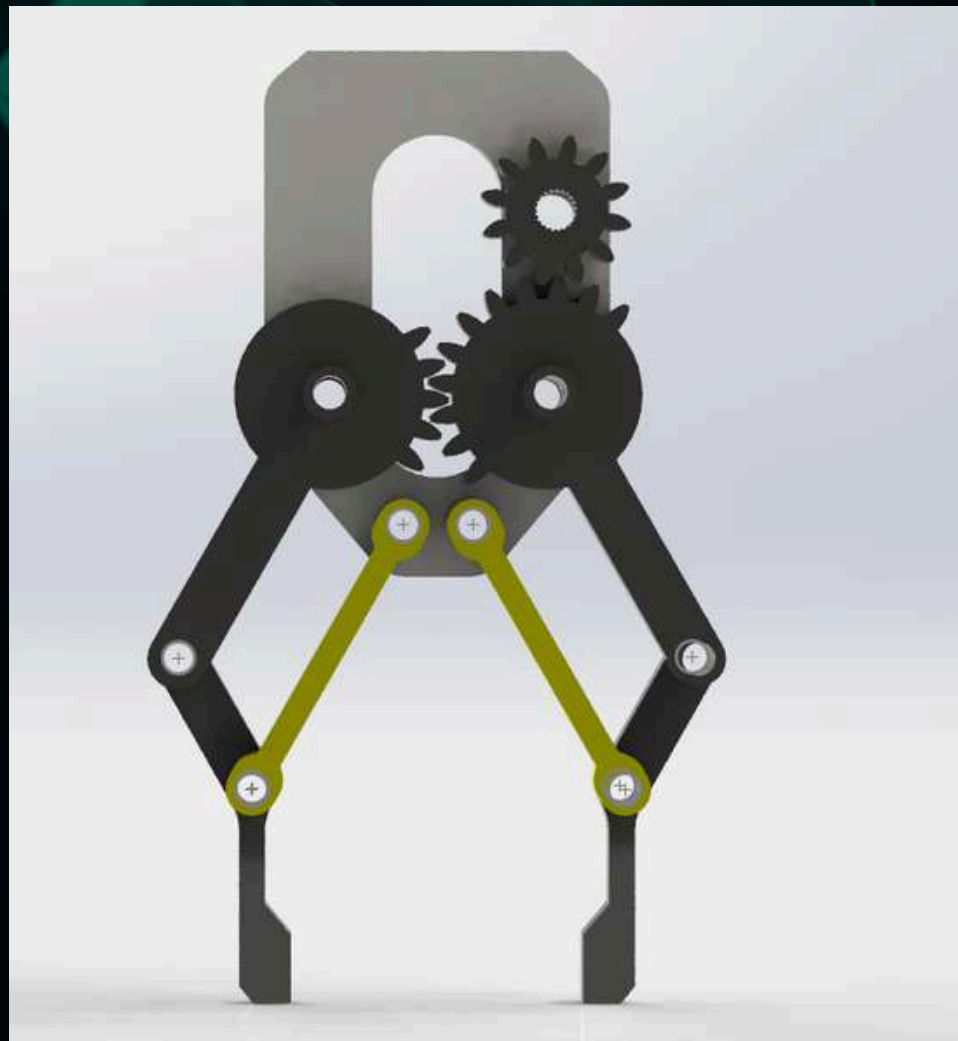






# Application applying

## 4-End effector design & manufacturing



CAD



Manufacturing & Assembly





# Thank You