浙江大学
ZHEJIANG UNIVERSITY

Team D.A.D Beginner Division

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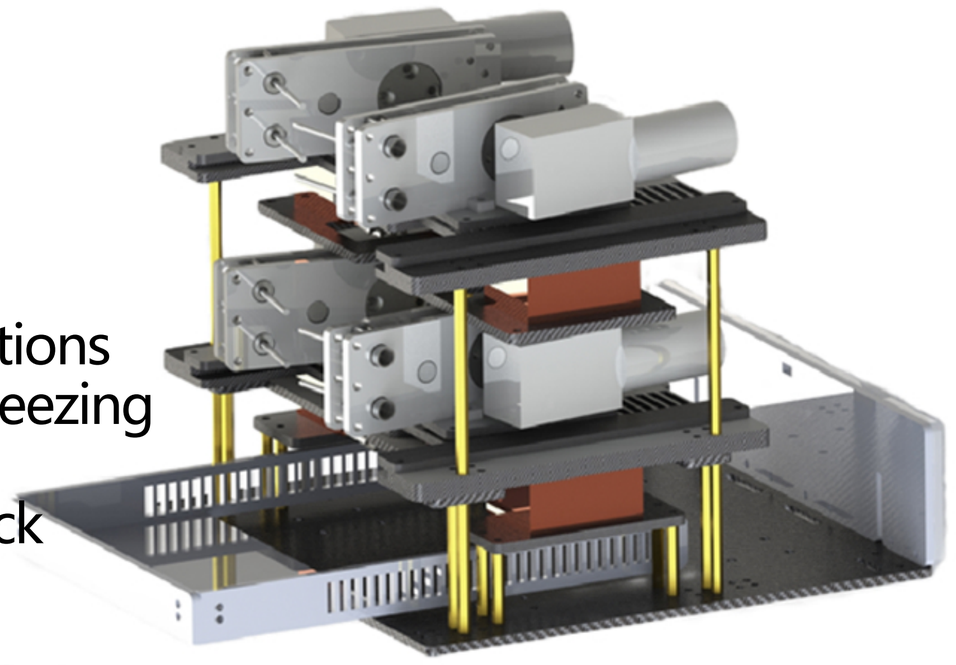
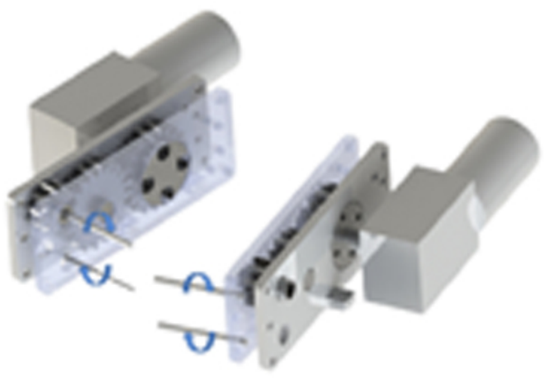
Designed Features

- Circuit integration: All sensors fixing on the PCB
- Image processing superior accuracy: Reaching 98%
- Automation: Automatic tracking and execution of operations
- Large cotton storage capacity: The telescopic device squeezing cotton storage space ,storing more cotton
- High Harvesting Efficiency: Using a rotating drill bit to pick



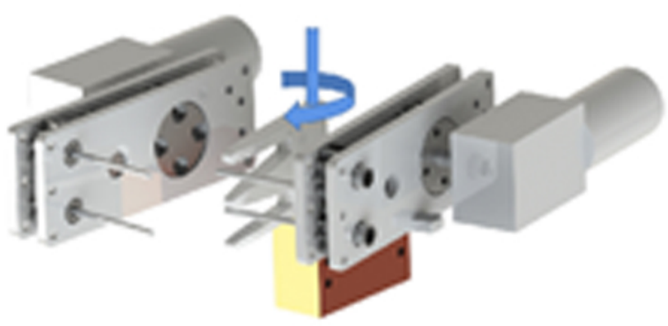
Functional Module of the Actuator



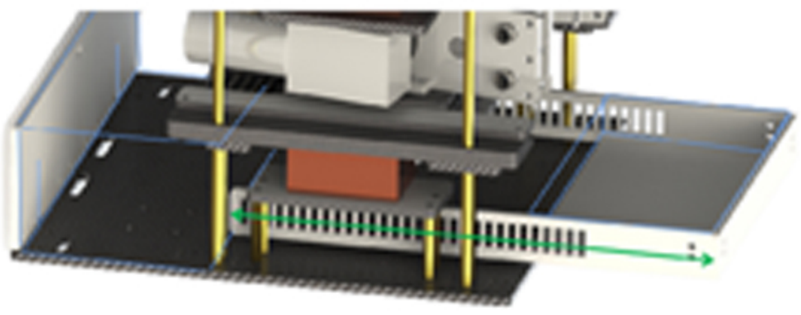
Picking Device

Telescopic Device

Infrared detection & shooting



Seperation Device



Collection Device

Ultrasonic tracking

- Picking Device--Using four drill bits to simultaneously roll cotton , high harvesting efficiency
- Telescopic Device--Control the stretching and retraction through the rotation of gears
- Seperation Device--Separate the cotton by rotating the cotton sweeping handle
- Collection Device--Transport the picked cotton through the telescopic movement
- Track movement--Control the robot to move by ultrasonic sensors
- Target Detection--Infrared sensor recognition rod, camera shooting for recognition

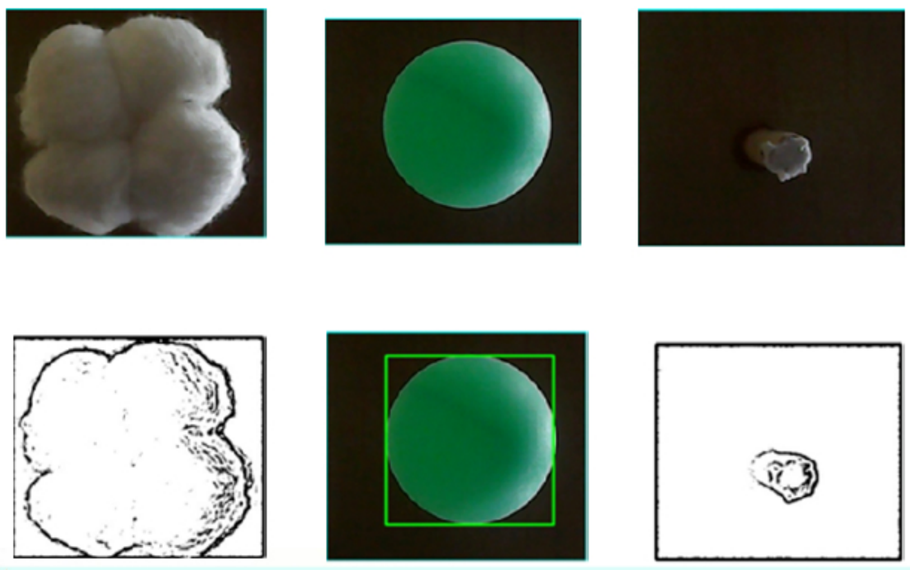


Image Processing

- Distinguishing from immature cotton through color recognition - large color difference
- Using watershed algorithm to distinguish between mature cotton and holes