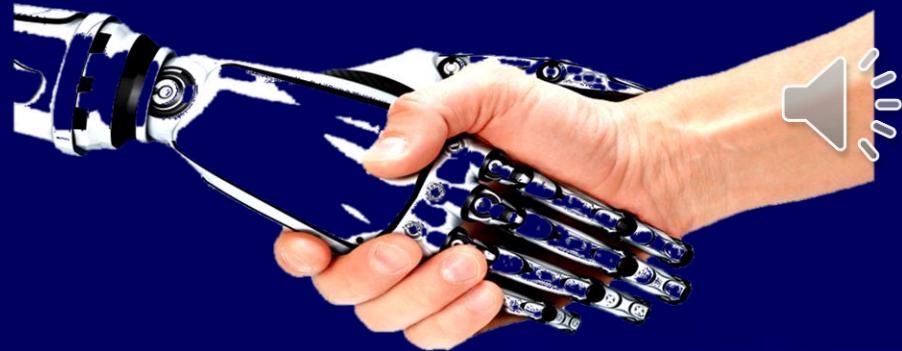


HUMAN ROBOT INTERACTION



Meaning of HRI

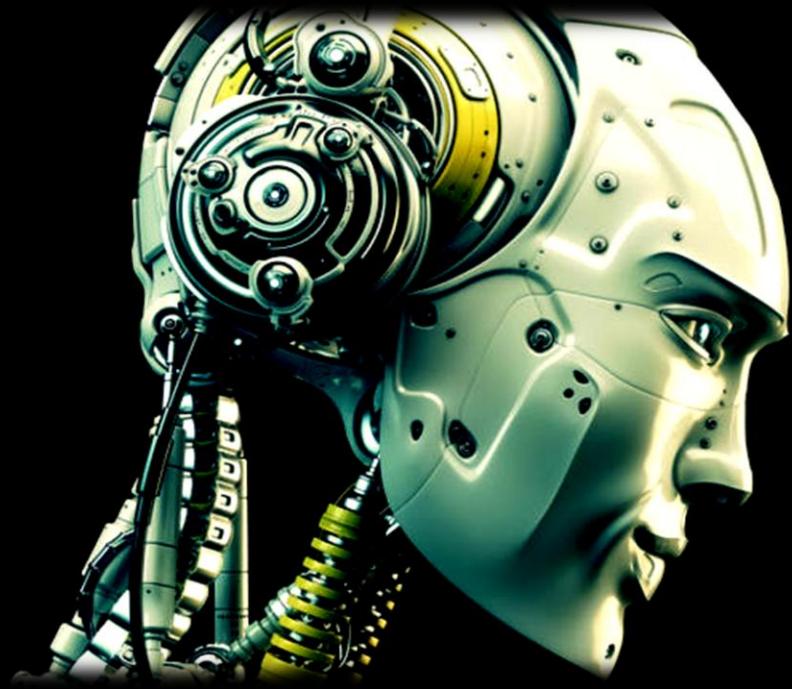
*Science
Fiction*

*Academic
Speculation*



HRI

What is a ROBOT?

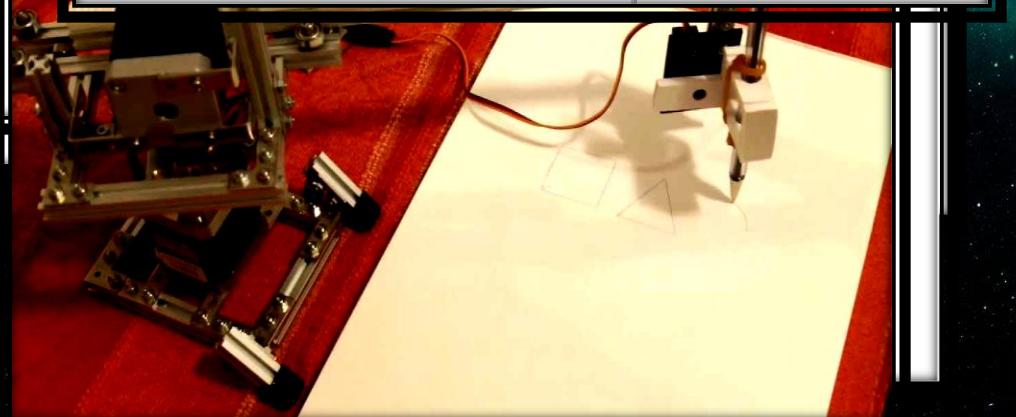
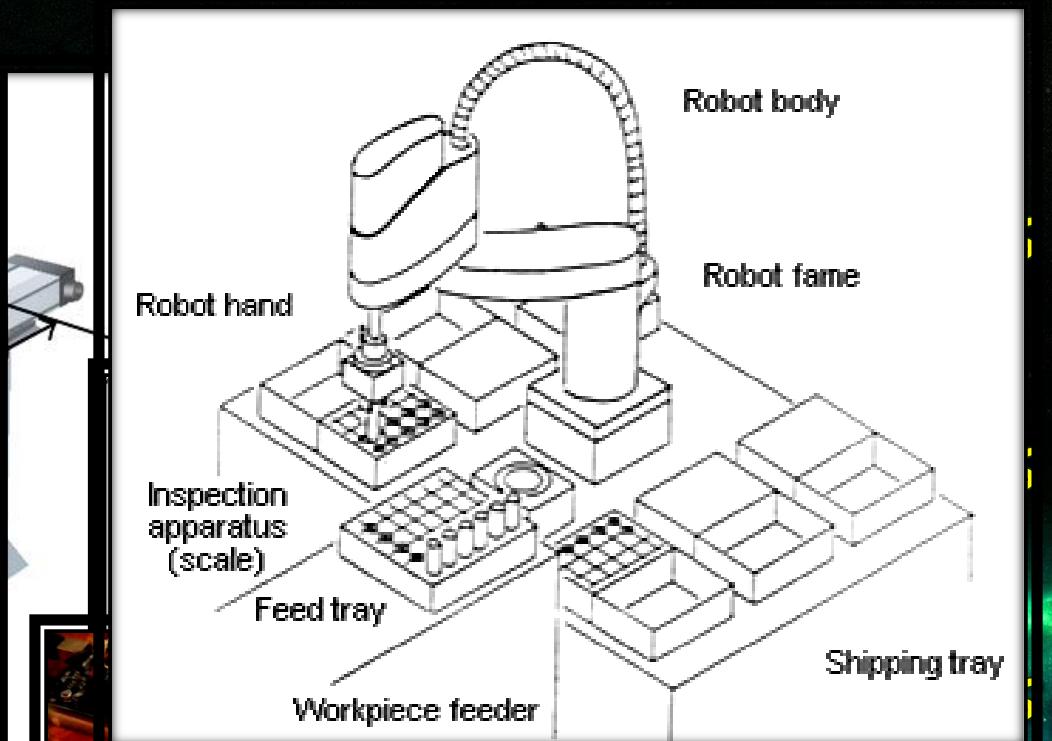
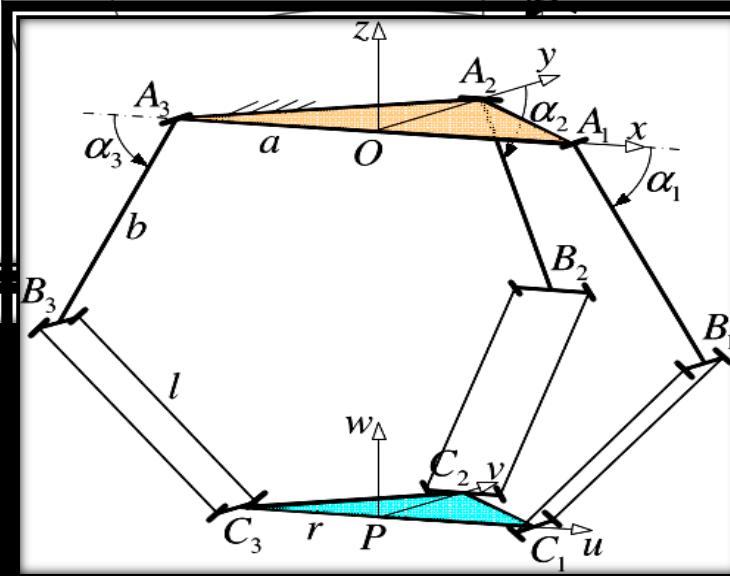
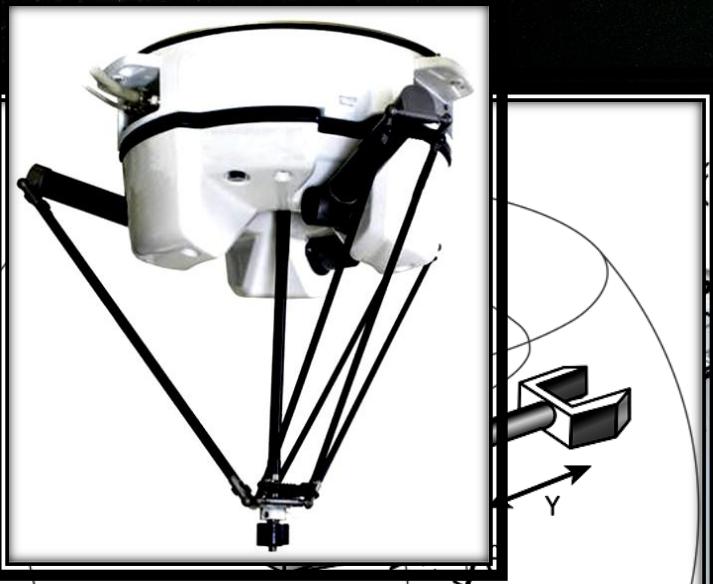


NEED FOR ROBOTS

- ✓ Performance
- ✓ Greater Efficiency
- ✓ Entertainment

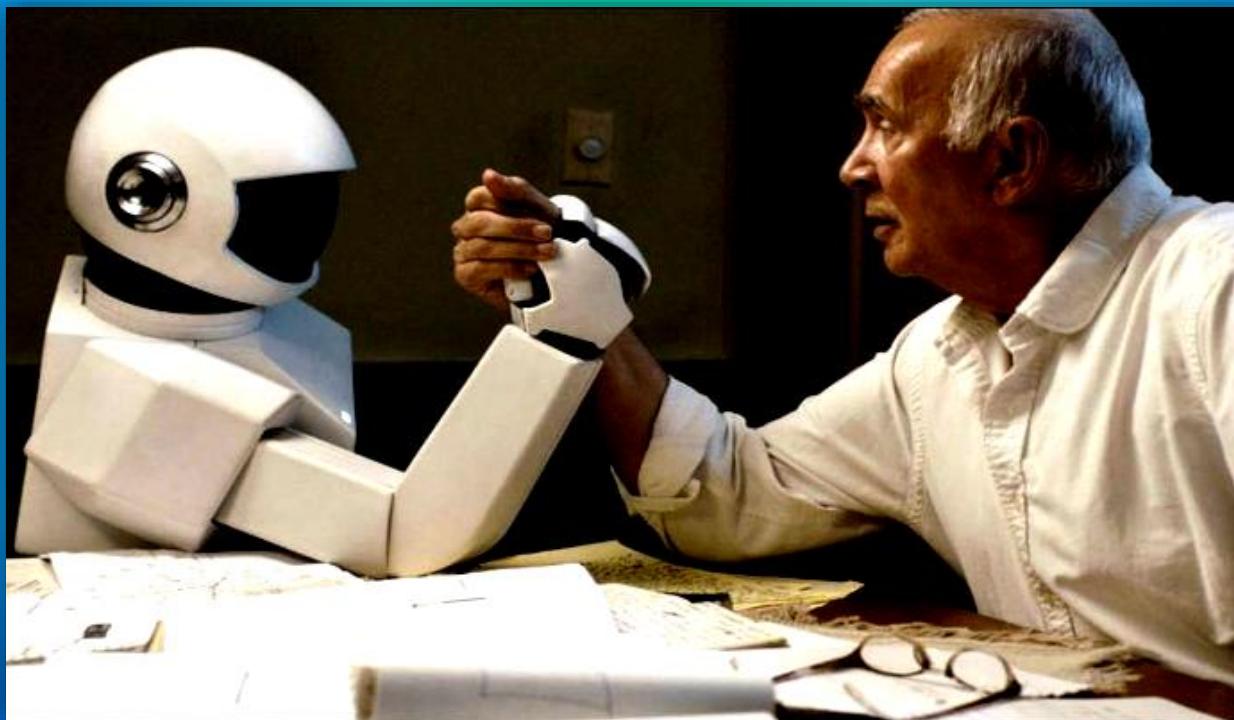


TYPES OF ROBOTS



INTERACTION

- Remote
- Proximate



HRI Problem

*HRI Problem is to understand and shape
the interactions between one or more
humans and one or more robots.*

HRI Problem

Factors affecting HRI Problem:-

- Autonomy
- Information Exchange
- Adaptation, learning and training
- Task shaping
- Finding a unifying theme

Levels of
Autonomy

Human
Operated

Human
Delegated

Human
Supervised

Fully
Autonomous

Sensors



Touch Sensor



Ultrasonic Sensor



Color Sensor



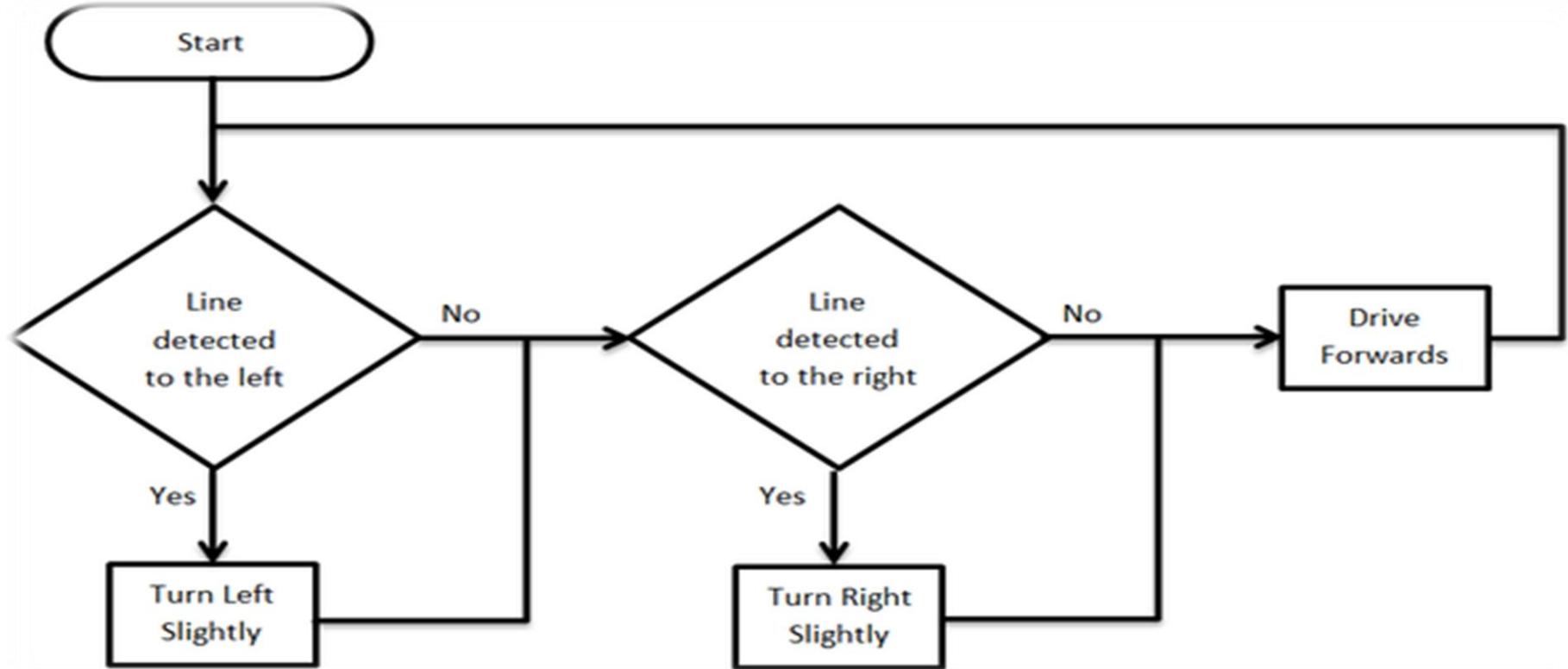
Sound Sensor



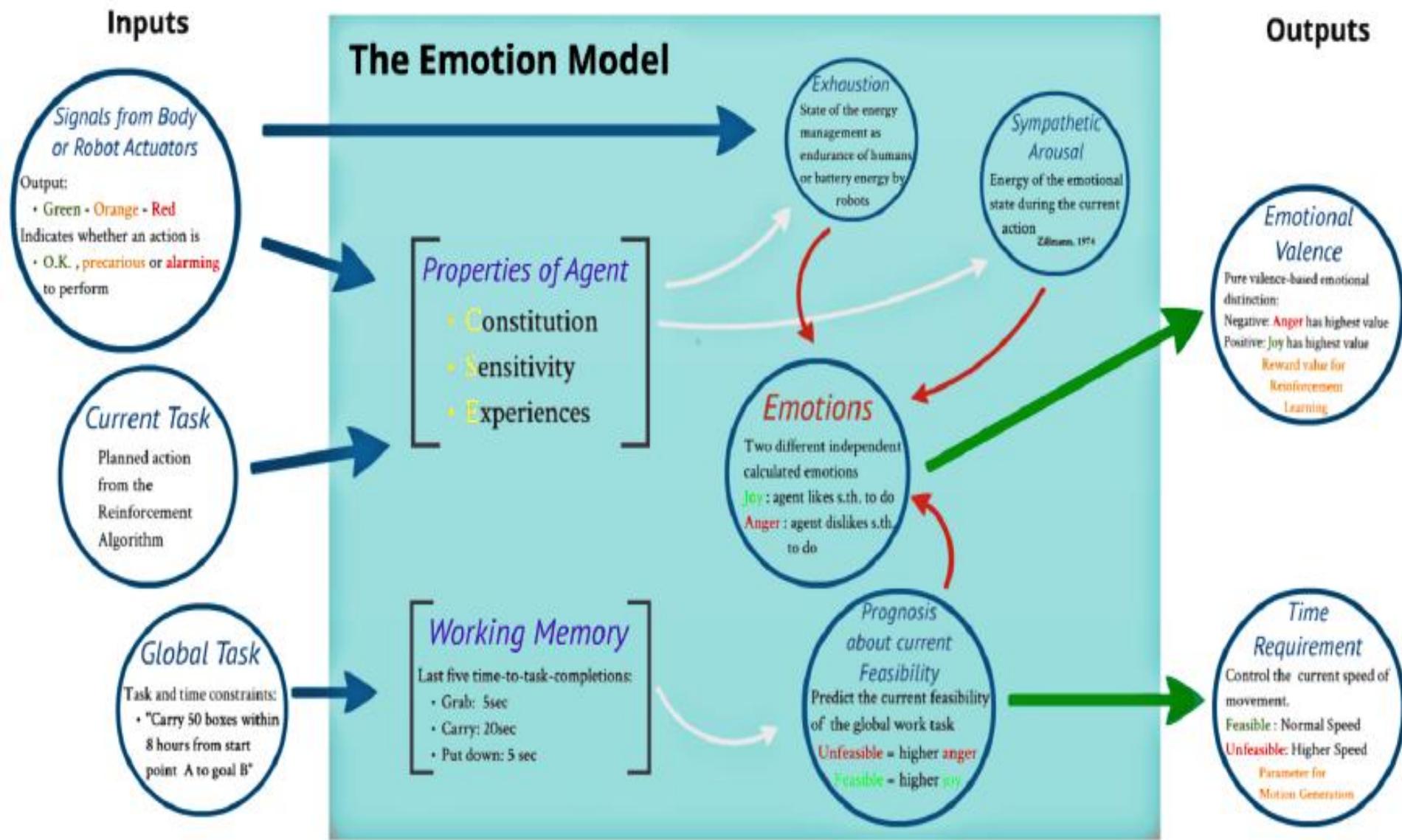
Light Sensor



Motor Sensor



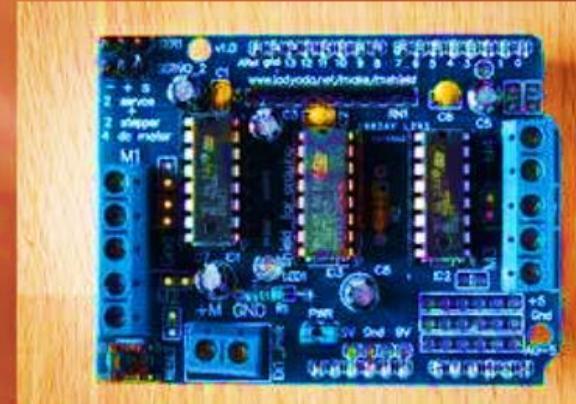
APPLICATIONS



HRI IN ELECTRICAL ENGINEERING

MAJOR PARTS OF ROBOT

- Actuators
- Effectors
- arms
- Sensors
- Micro controllers



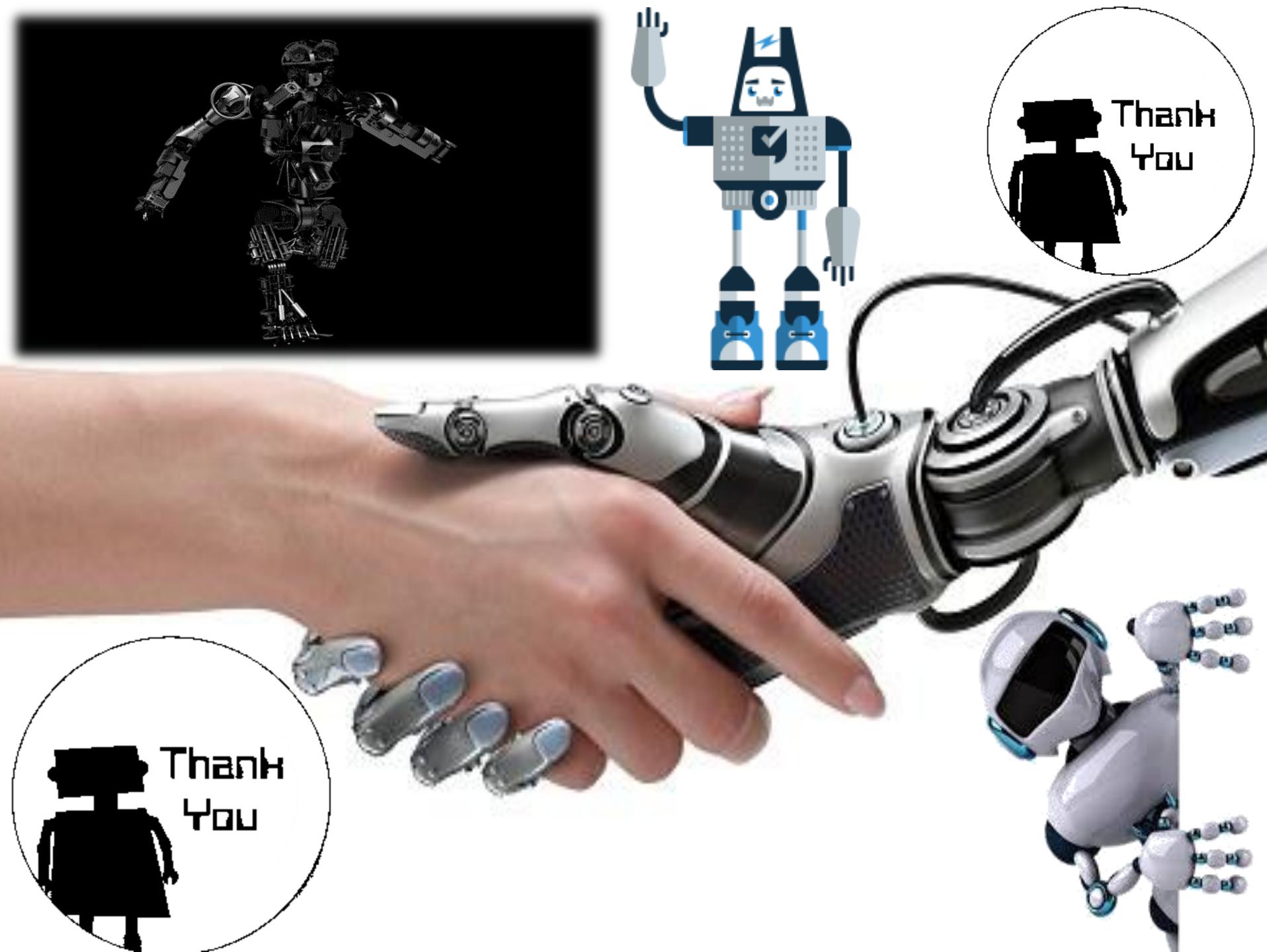
- *control Systems*
- *Automation*
- *Microprocessors & Microcontrollers*

HR1 Ethics

Isaac Asimov's “Three Laws of Robotics”:-

- ❖ A robot may not injure a human being or, through inaction, allow a human being to come to harm.
- ❖ A robot must obey orders given it by human beings except where such orders would conflict with the First Law.
- ❖ A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.





Thank
You

Thank
You