ME - 639 Introduction to Robotics
Assignment #1
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❖ Manipulators (Robotic Arms)

1. KUKA KR AGILUS
   - KR AGILUS (English)
   - The Duel: Timo Boll vs. KUKA Robot
   - Fast Robotic Assembly of CPU and Memory…
2. Articulated Robot Arm (SCARA) or IRB 910SC
   - ABB Robotics Selective Compliance Arti…

❖ Mobile Robots (ground)

1. Mebo
   - Meet Mebo: America's Top Robot
   - Robo Fitness - MEBO Putting In Work A…
2. Amazon Kiva
   - CNET News - Meet the robots making ...

❖ Aerial Robots (UAV)

1. Skydio 2
   - Introducing Skydio 2

❖ Underwater Robot (AUV)

1. MBARI
   - Autonomous Underwater Vehicles

❖ Soft Robots

- Life at the Lab: Soft Robots
- Meet the World's First Completely Soft ...

❖ Micro Robots

1. Robobee

- RoBeetle: A Micro Robot Powered by L...

2. Types of motors
    1. Brushed DC:- In a brushed DC motor, the rotor spins 180-degrees when an electric current is run to the armature. To go any further, the poles of the electromagnet must flip. The brushes, as the rotor spins, make contact with the stator, flipping the magnetic field and allowing the rotor to spin a full 360-degrees.
       BLDC (Brushless DC):- In brushless DC motors, the permanent magnets are on the rotor, and the electromagnets are on the stator. A computer then charges the electromagnets in the stator to rotate the rotor a full 360-degrees.
    2. Stepper Motors:- The basic working principle of the stepper motor is the following: By energizing one or more of the stator phases, a magnetic field is generated by the current flowing in the coil and the rotor aligns with this field..
    3. Servo motors:- A servo motor is an electromechanical device that produces torque and velocity based on the supplied current and voltage. A servo motor works as part of a closed loop system providing torque and velocity as commanded from a servo controller.
    4. AC synchronous
    5. AC asynchronous