ENGR 3421: Robotics I

Introduction

08/25/2022

Outline

- Course related information
- What is a robot
- Mobile robot
- Github Classroom

Safe First

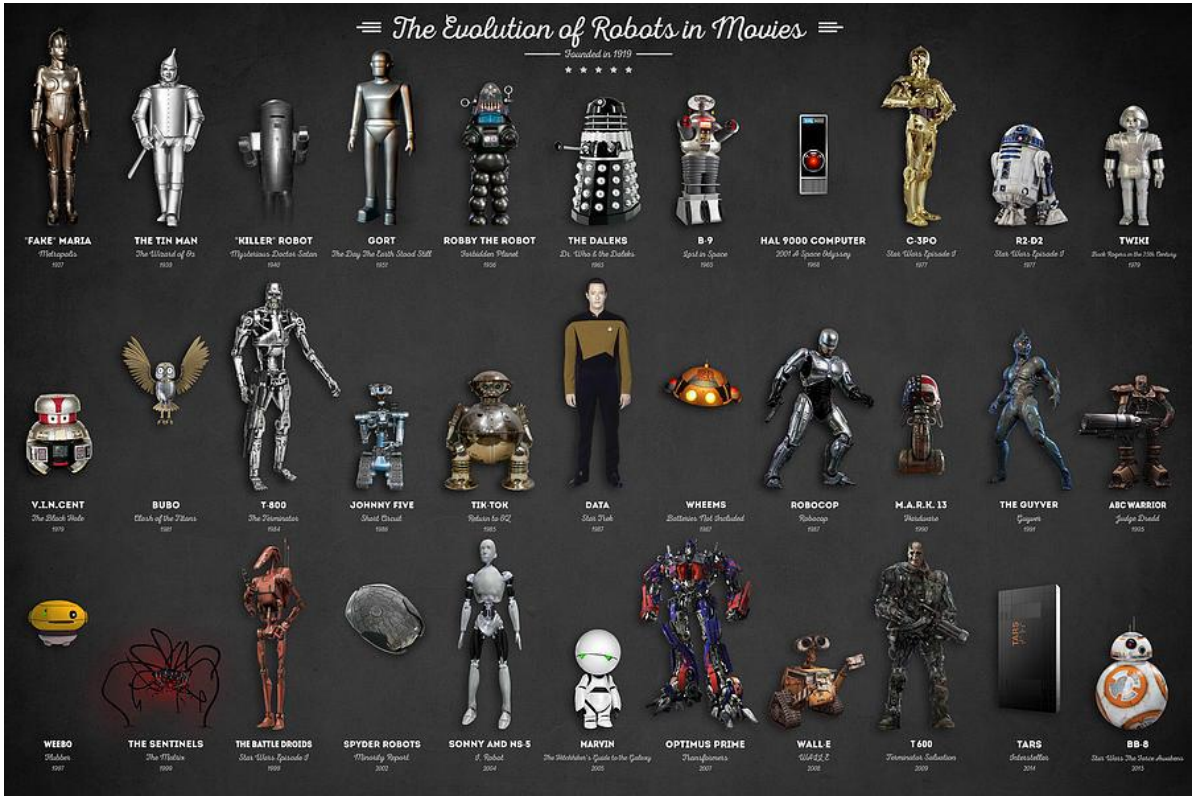
Wear Protections

Course Information

- Course Materials: https://linzhanguca.github.io/robotics1-2022
- Instructor: Lin Zhang
- Location: LSCA105 / LSC110 / LSC013
- Office Hour: 02:30 PM - 04:30 PM, Tuesday
- Laptop: physicsrules

What is a Robot?

In Popular Culture



In Real World

Robots may be constructed to evoke human form, but most robots are task-performing machines, designed with an emphasis on stark functionality, rather than expressive aesthetics.

- Car factory robot
- House cleaning robot
- Warehouse robot
- Agricultural robot
- Survey robot
- Entertainment robot

In Scientific Research

A robot is a machine—especially one programmable by a computer—capable of carrying out a complex series of actions automatically.

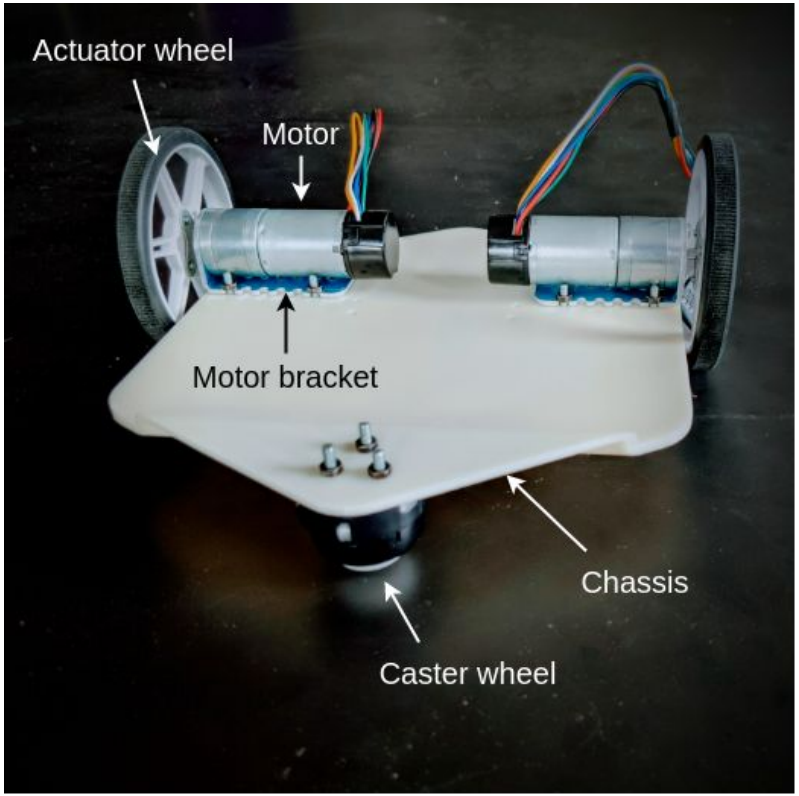
- Humanoid
- Quadrupedal robot
- Spherical robot
- Winged robot
- Quadrotor
- Underwater robot
- Soft robot
- Extra-terrestrial robot
- You name it ...

Mobile Robot

A.k.a. automated guided vehicle, Autonomous ground vehicle (AGV), unmanned ground vehicle (UGV).

- Self-driving car
- Delivering robot
- Warehouse robot

Mobile Robot



Build it, break it, fix it

Github Classroom

1. Create a Github account
2. Accept assignment
3. Update repository