

Aphirak Thitinarnvit
อัษฎิน



Slide



Line group
ที่ปรึกษา

Interrest topic:

Internet of things (IOTs),
Unmanned Aerial Vehicles (UAVs),
Circuit Design



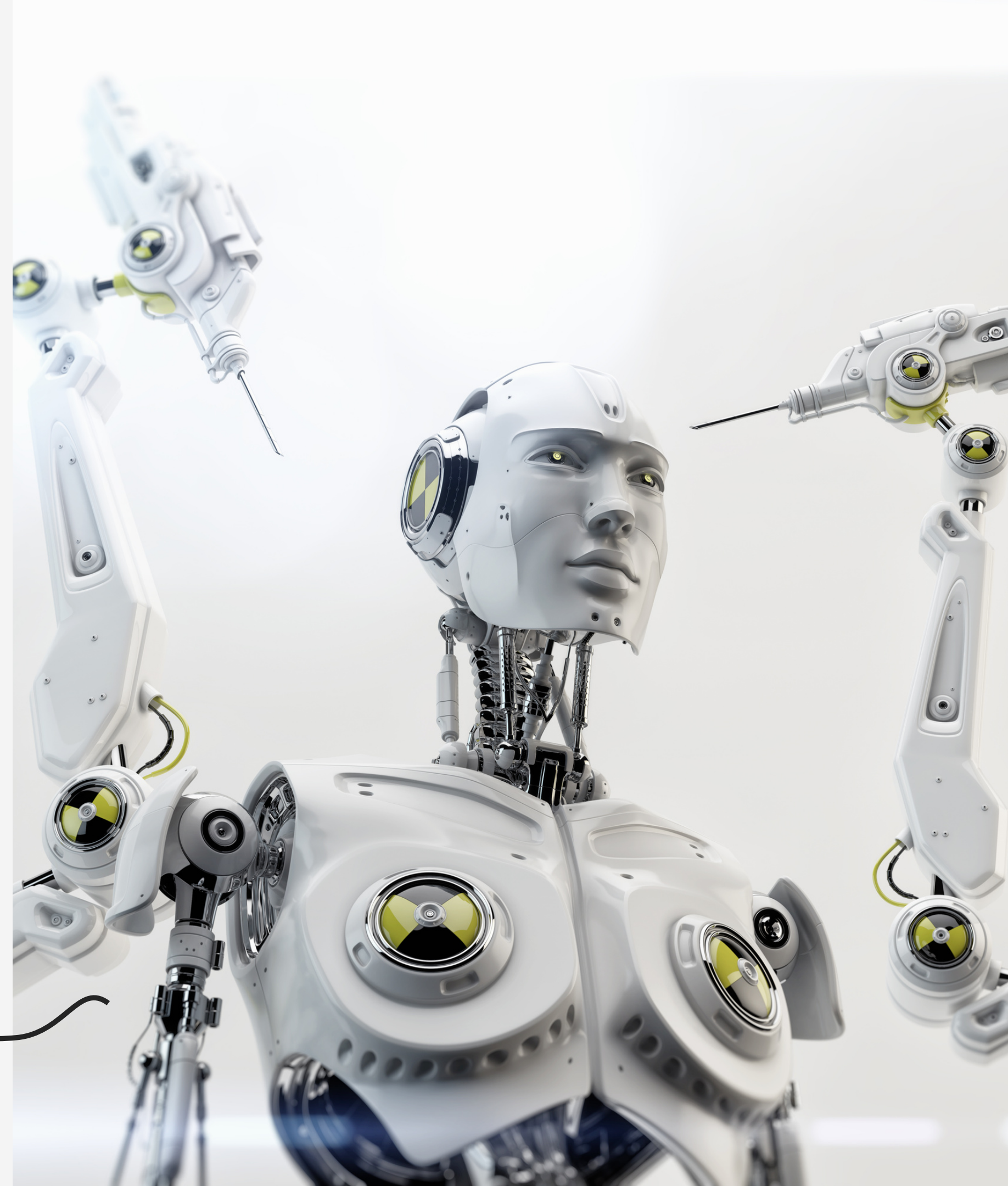
รายละเอียดวิชา

RBE1002 อุปกรณ์และวงจรอิเล็กทรอนิกส์ 3(2-2-5)
ELECTRONIC CIRCUITS AND DEVICES

อุปกรณ์อิเล็กทรอนิกส์และอิเล็กทรอนิกส์กำลัง อุปกรณ์แอมป์ วงจรแหล่งจ่ายไฟฟ้า วงจรรักษาระดับแรงดันไฟฟ้า การประยุกต์ใช้งาน การเขียนวงจร การจำลอง แบบลายวงจร และประกอบวงจรอิเล็กทรอนิกส์

ELECTRONICS DEVICES AND POWER ELECTRONICS, OP-AMP, POWER SUPPLY CIRCUIT, VOLTAGE REGULATOR CIRCUIT, APPLICATION IN ELECTRONICS CIRCUITS, BASIC OF POWER ELECTRONICS DEVICES, SCHEMATIC CIRCUIT, SIMULATION, PRINTED CIRCUIT BOARD AND ELECTRONICS CIRCUIT ASSEMBLY

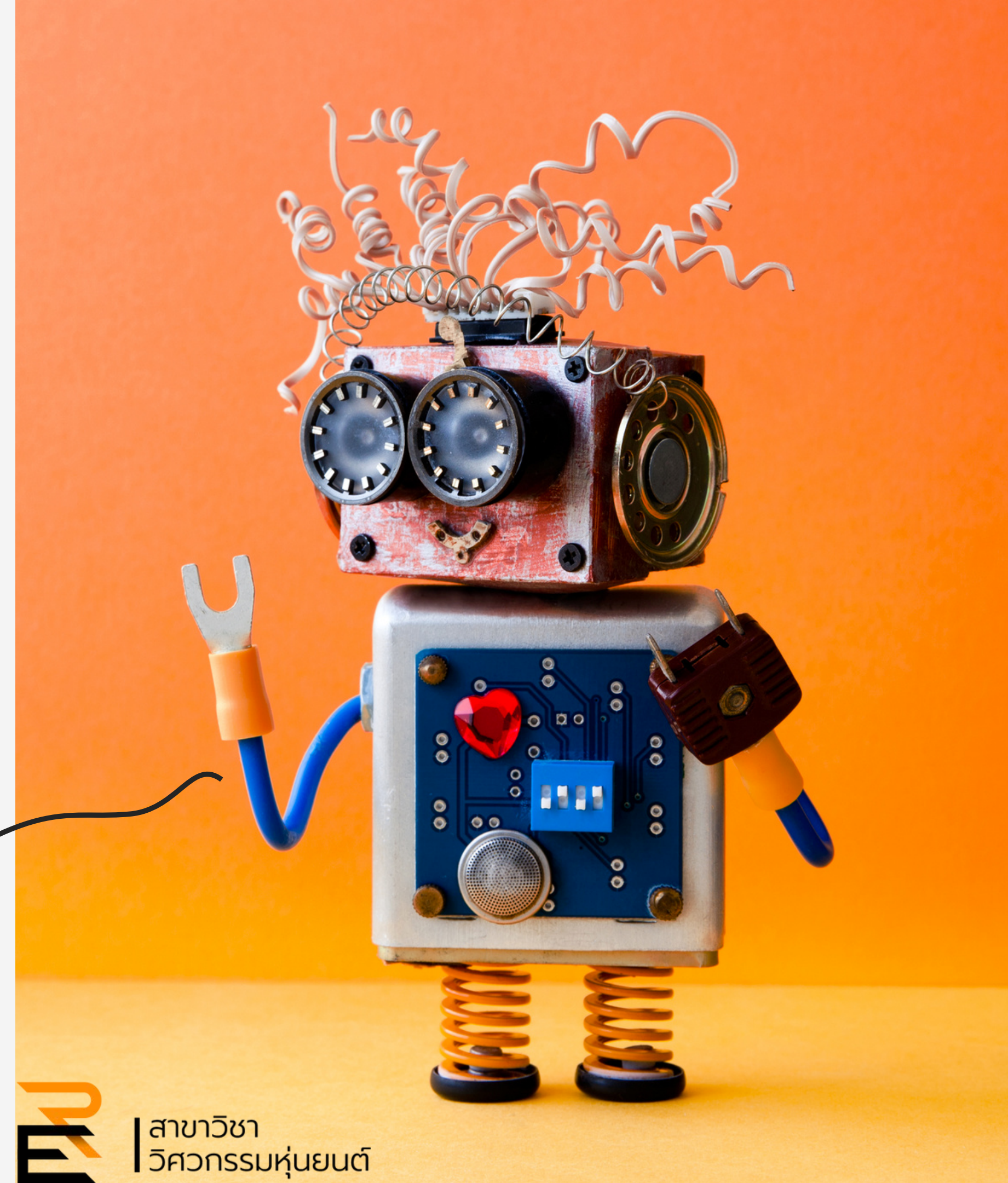
Chapter 01 : Robotic Platform
Chapter 02 : Microcontroller for Robots
Chapter 03 : Sensors & Motors
Chapter 04 : Controlling Robot
Chapter 05 : Tools
Chapter 06 : Assembling a Robot



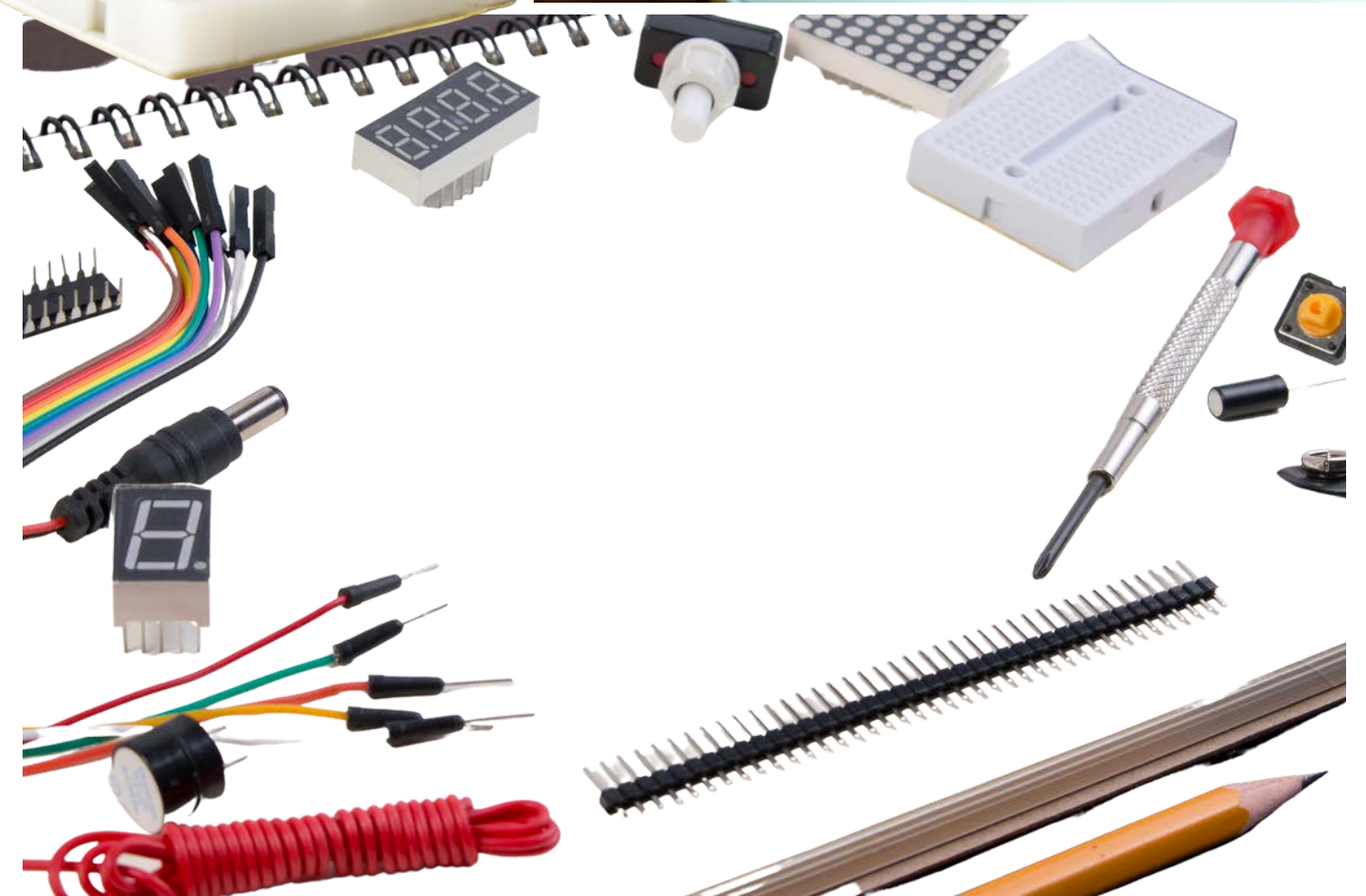
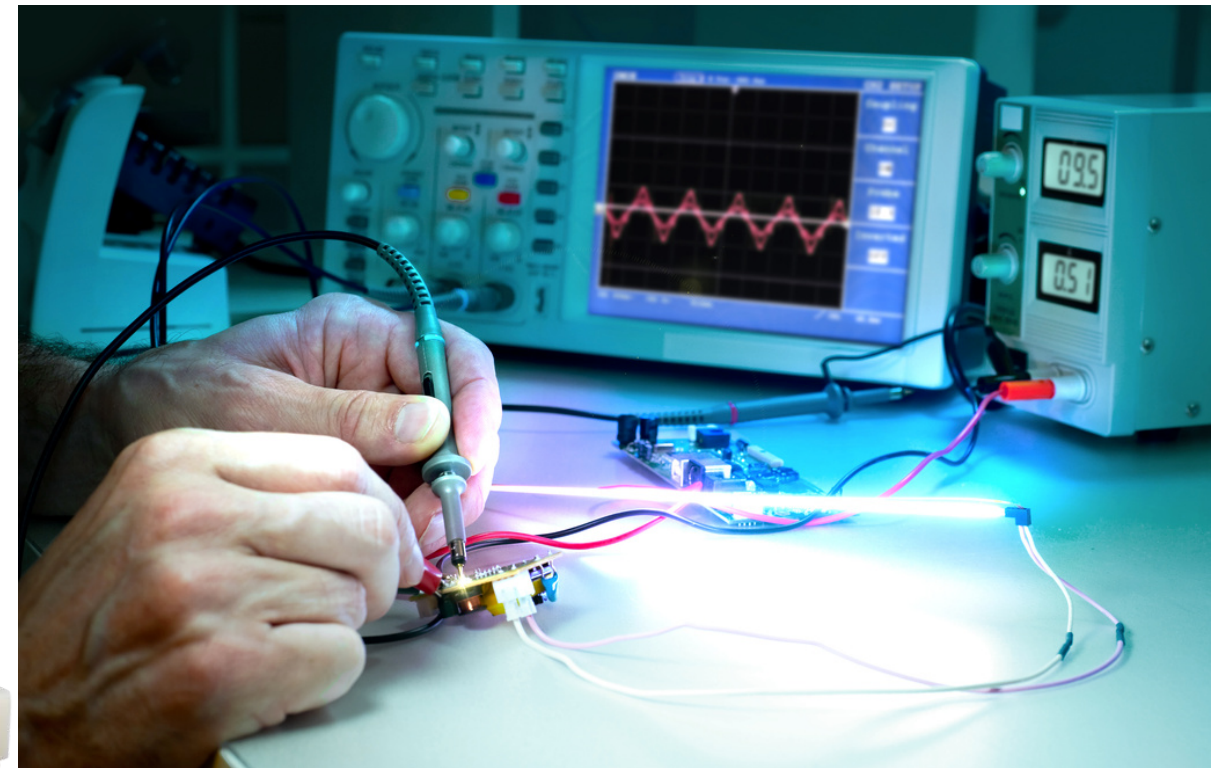
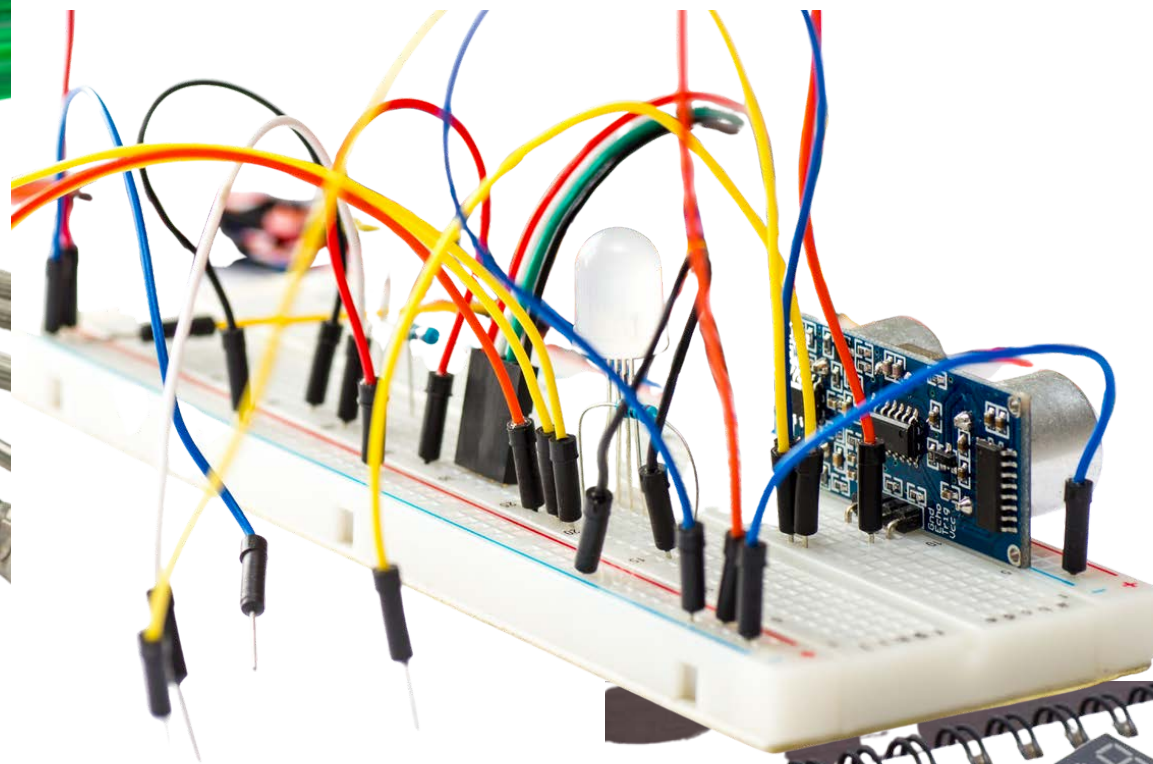
Welcome!

Meet the TOOLS & ASSEMBLING

19-12-2024



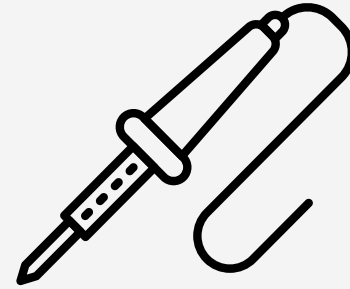
TOOLS เครื่องมือ



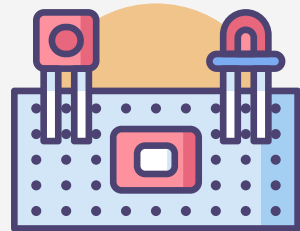
Robotics Tools



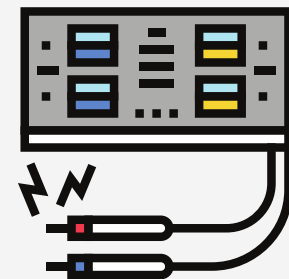
1. Mechanical Robotics Tools



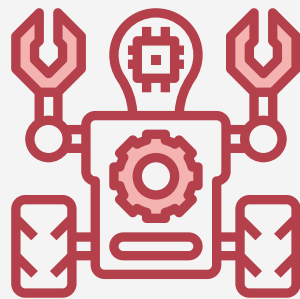
2. Soldering Iron



3. Breadboard or Protoboard



4. Electronic Equipment



5. Miscellaneous Robotics Tools



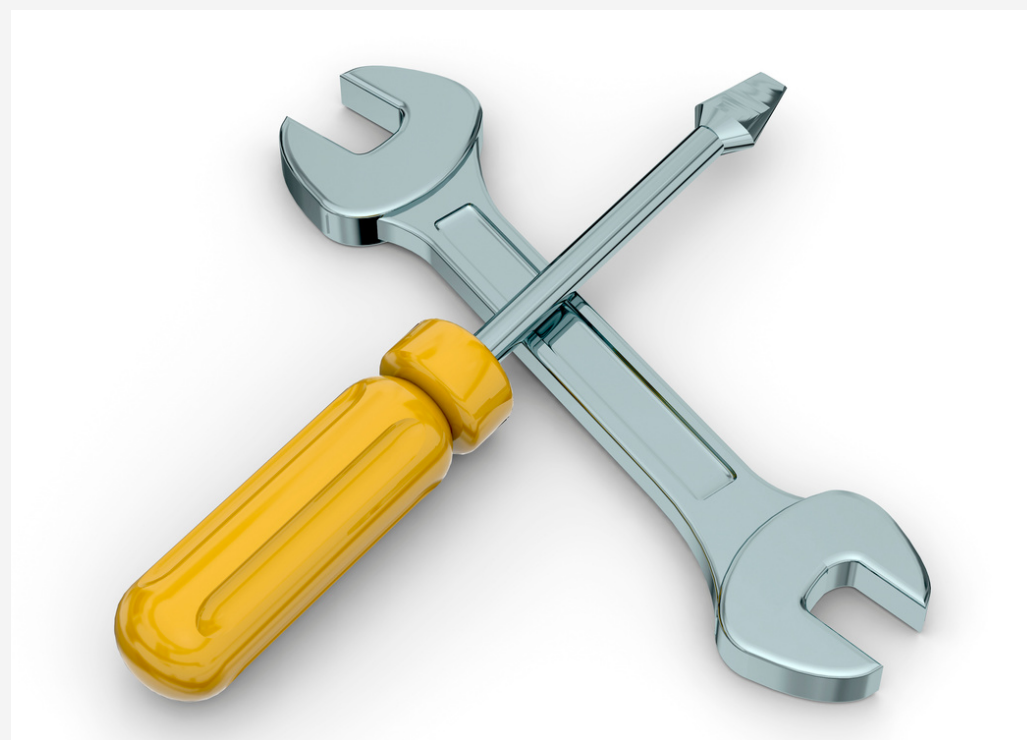
6. Specialty Tools



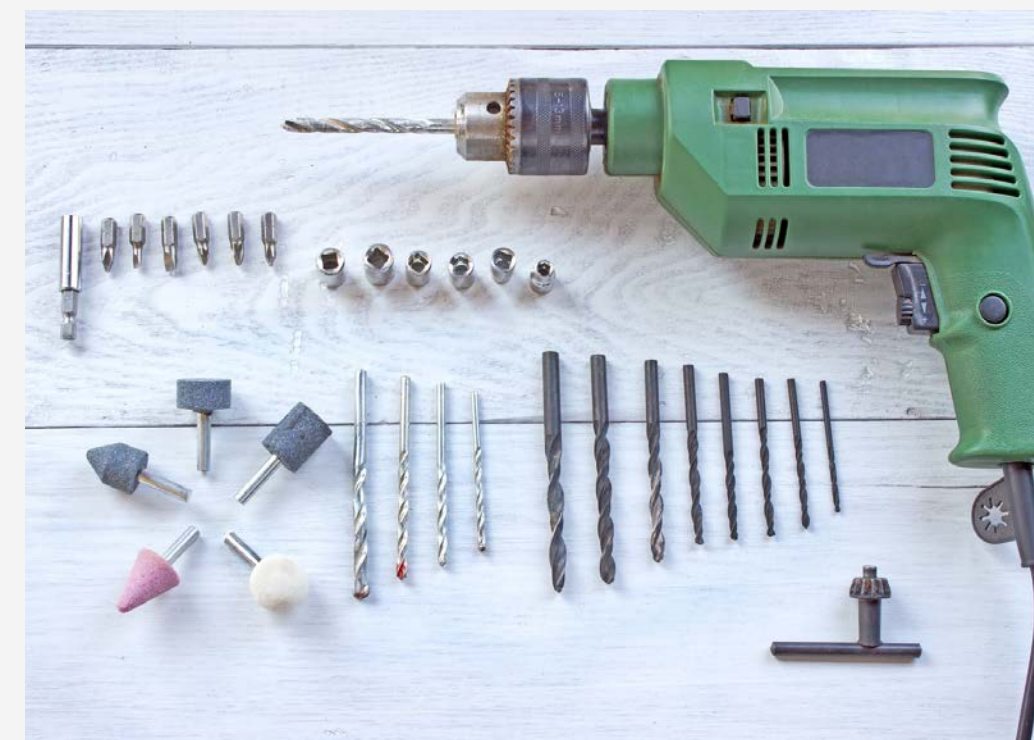
1. Mechanical Robotics Tools



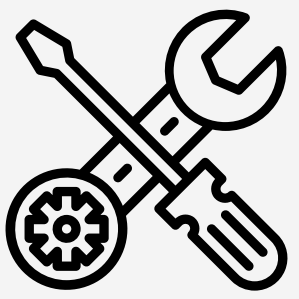
1.1 Hammer



1.2 Screwdrivers and
Wrenches



1.3 Electric Drill and Drill
Bits

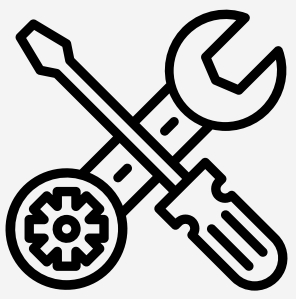


1. Mechanical Robotics Tools

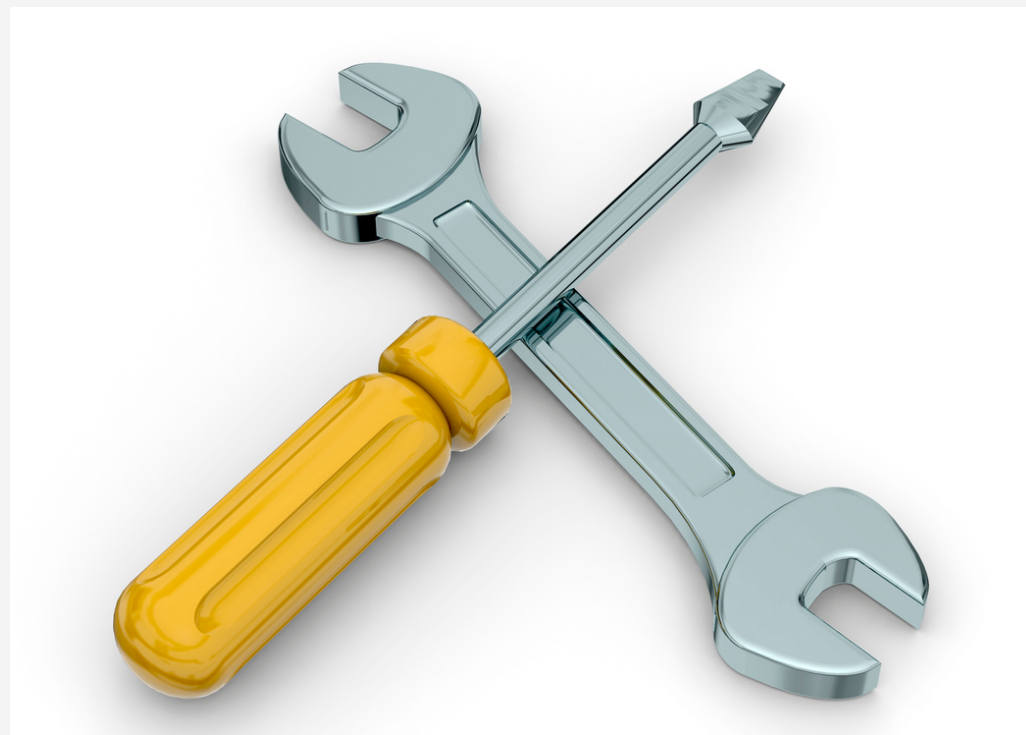


1.1 Hammer



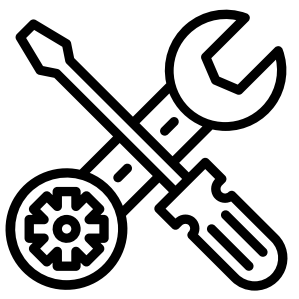


1. Mechanical Robotics Tools

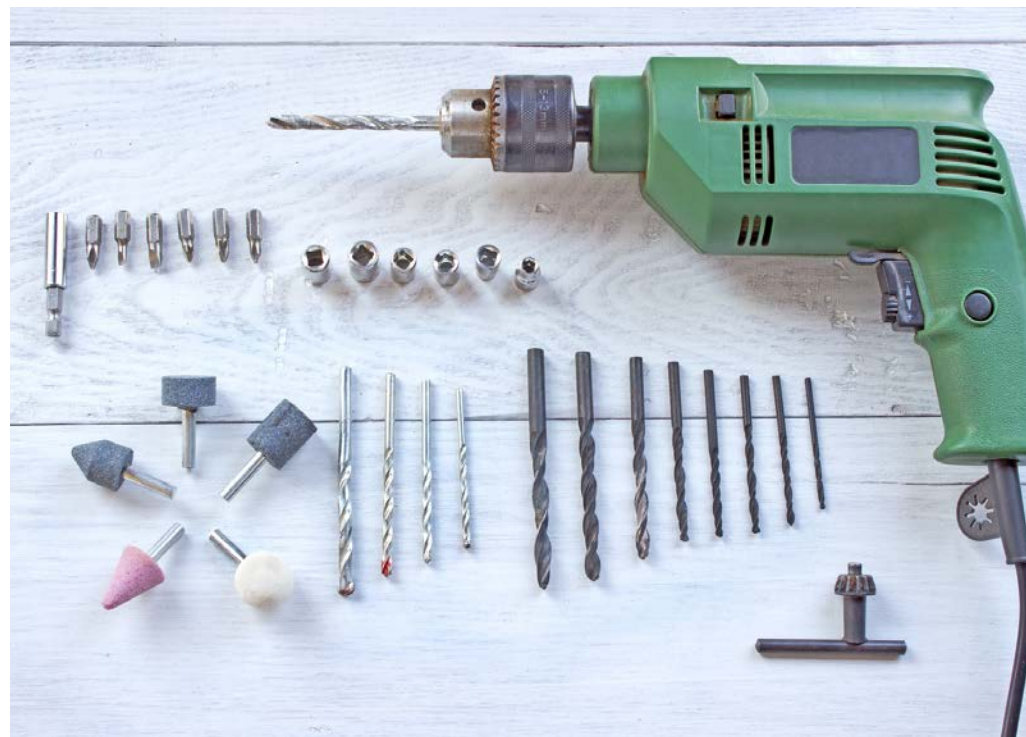


1.2 Screwdrivers and Wrenches



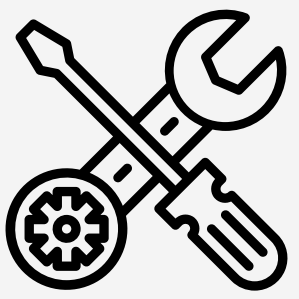


1. Mechanical Robotics Tools

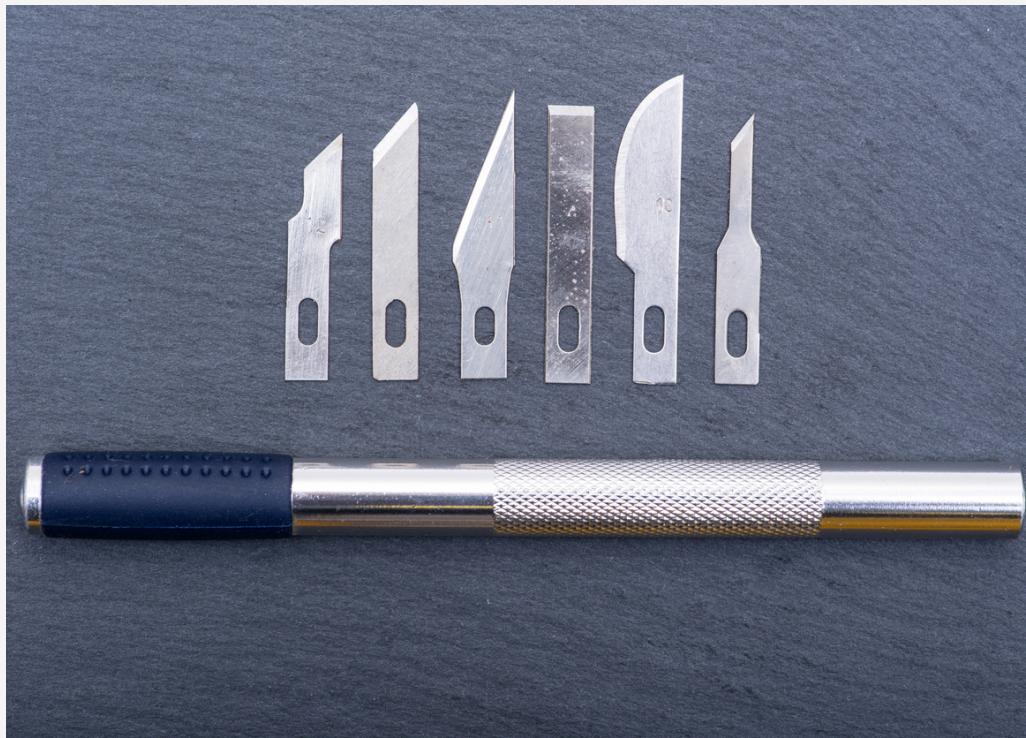


1.3 Electric Drill and Drill Bits

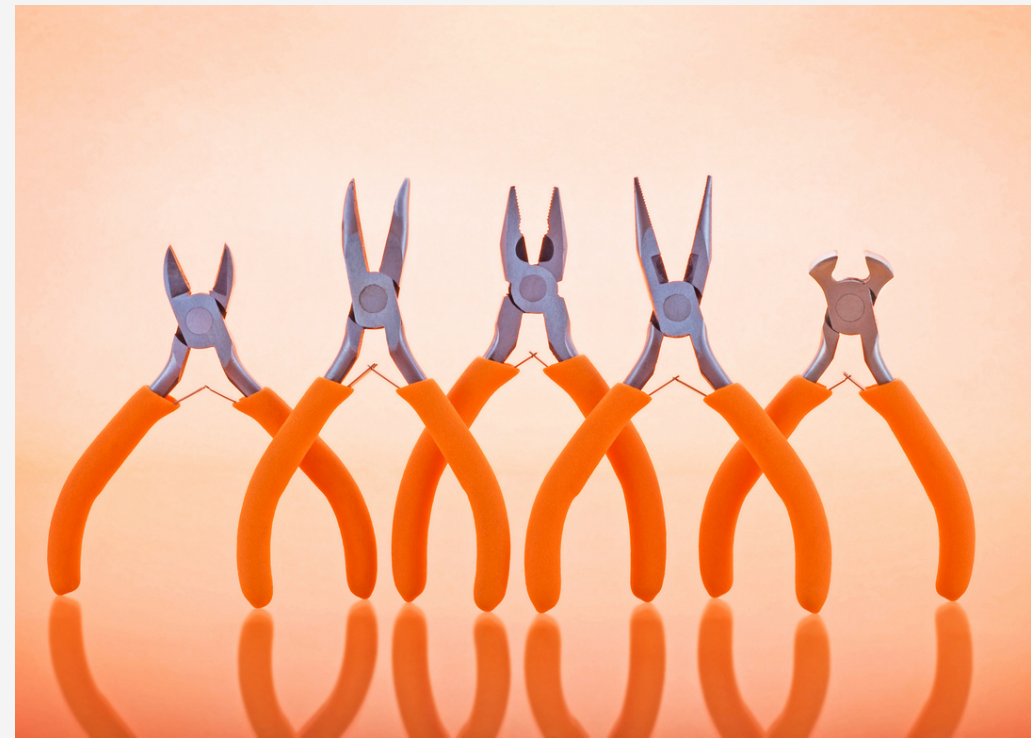




1. Mechanical Robotics Tools (2)



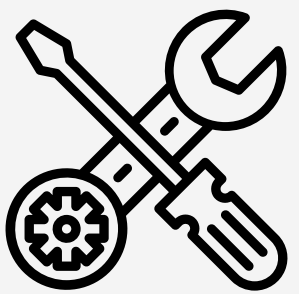
1.4 Hobby Knife



1.5 Pliers

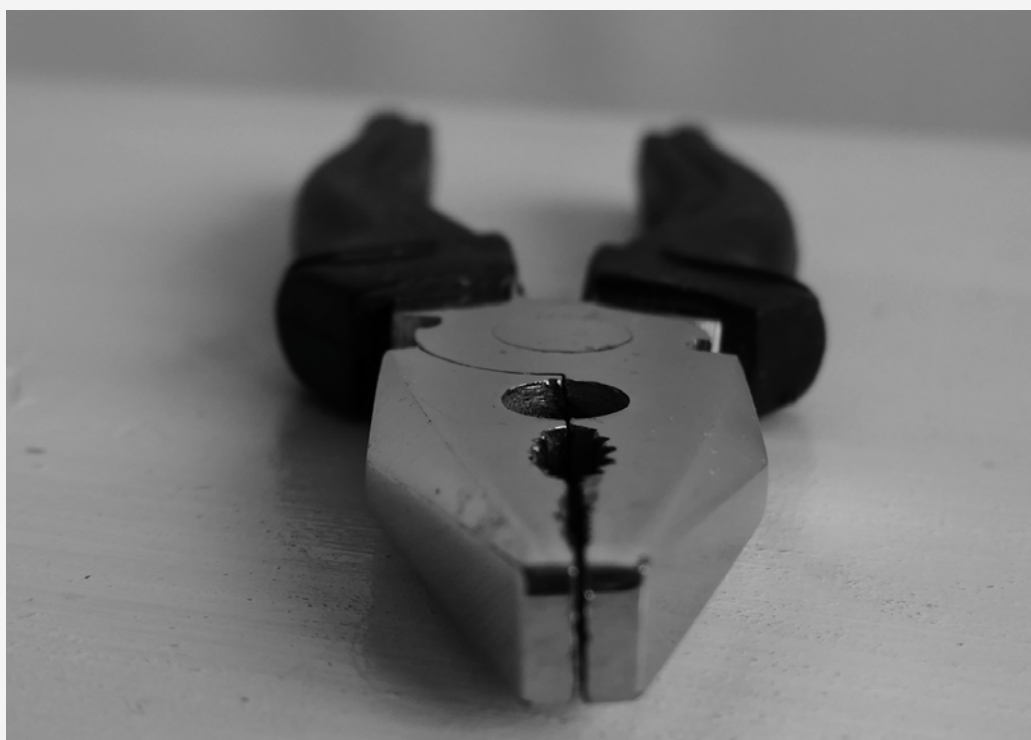


1.6 Saw



1. Mechanical Robotics Tools (3)

5. Pliers



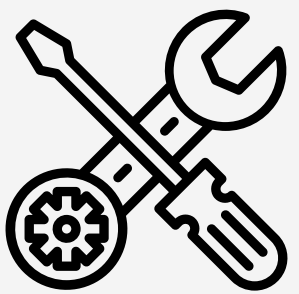
1.5.1 คีมตัดข้าง
(คีมปากจระเข้)



1.5.2 คีมปากแหลม
(คีมปากจิ้งจก)



1.5.3 คีมปากขยาย



1. Mechanical Robotics Tools (4)

5. Pliers



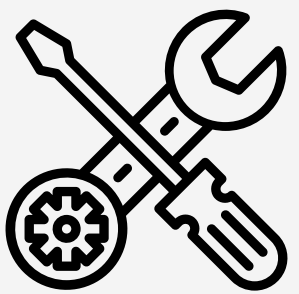
1.5.4 คีมปากกลม



1.5.5 คีมปากนกแก้ว
หรือ คีมตัด

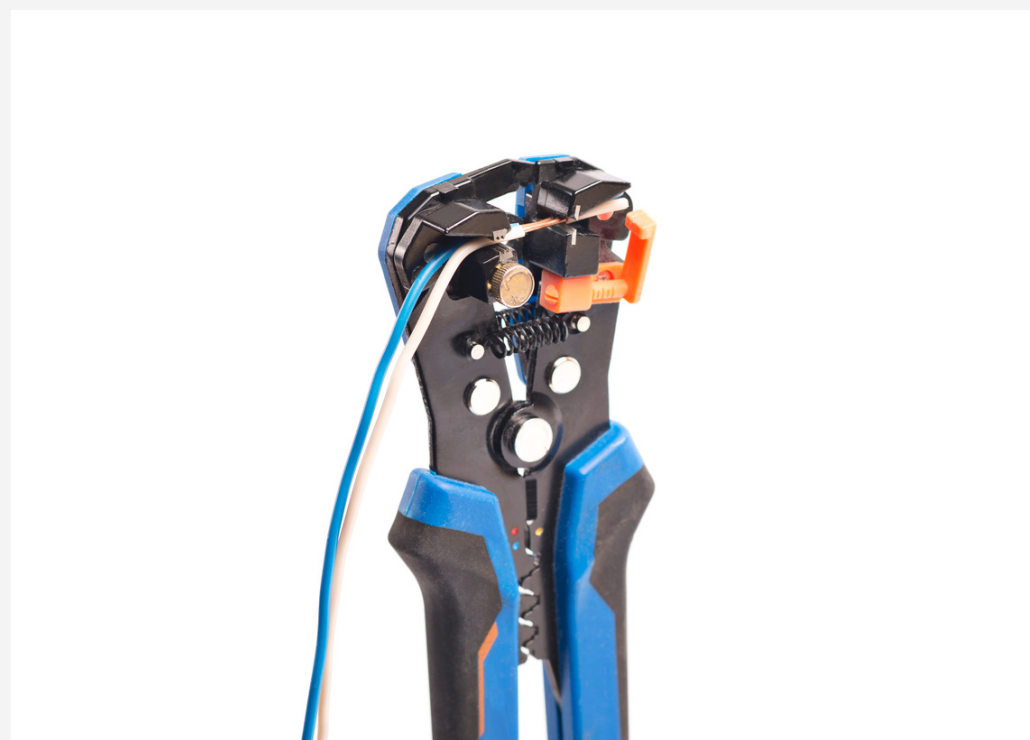
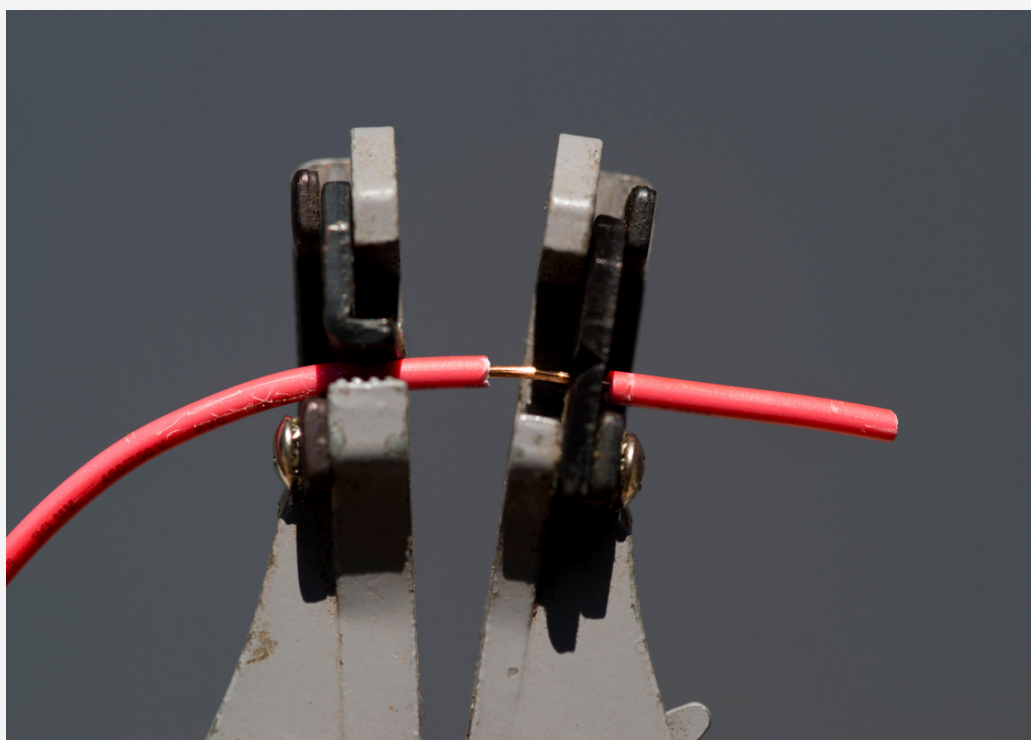


1.5.6 คีมล็อก

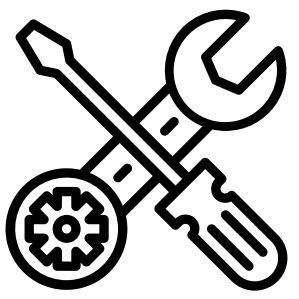


1. Mechanical Robotics Tools (5)

5. Pliers



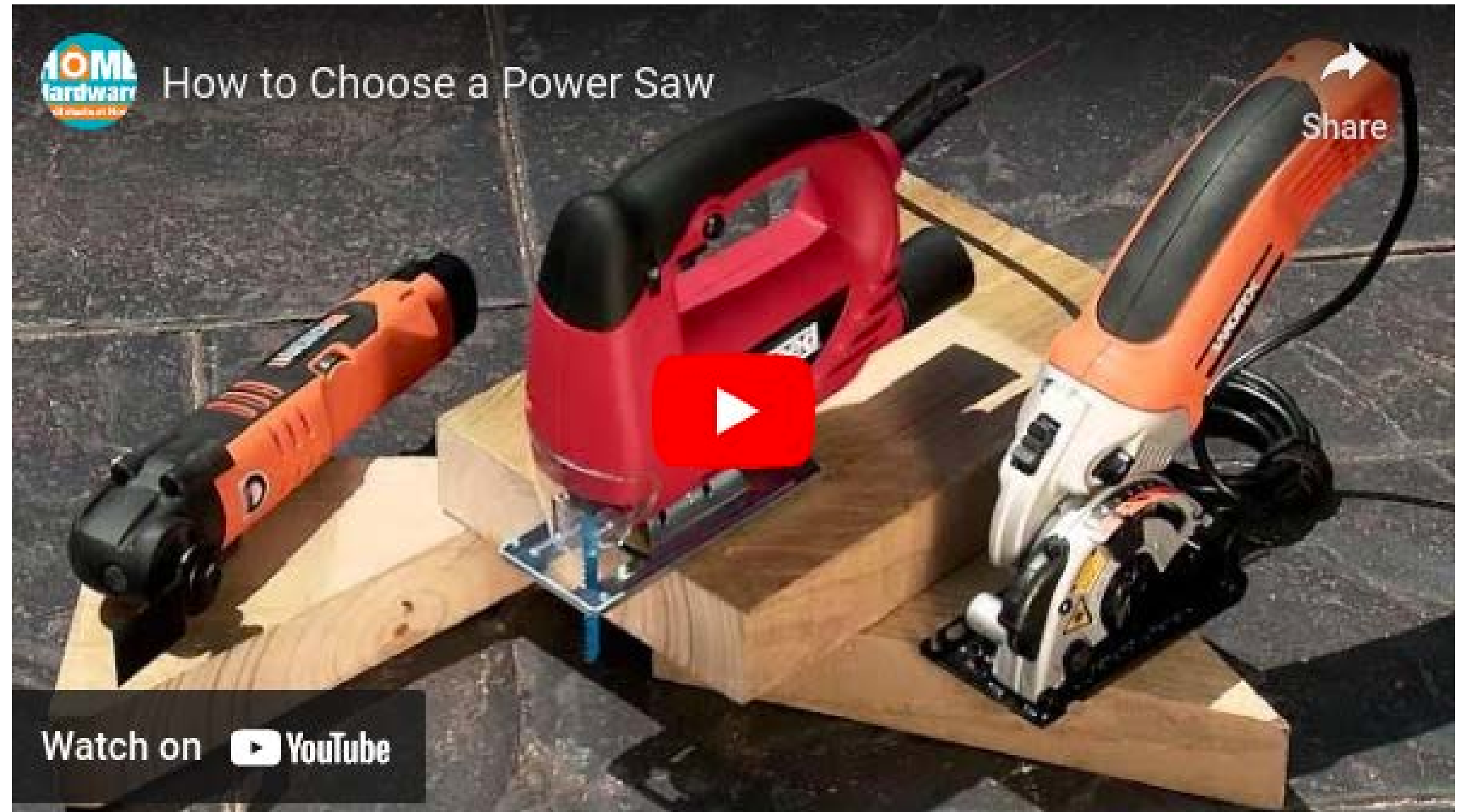
1.5.7 คีมลอกสายไฟ

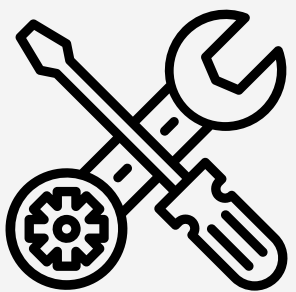


1. Mechanical Robotics Tools (2)

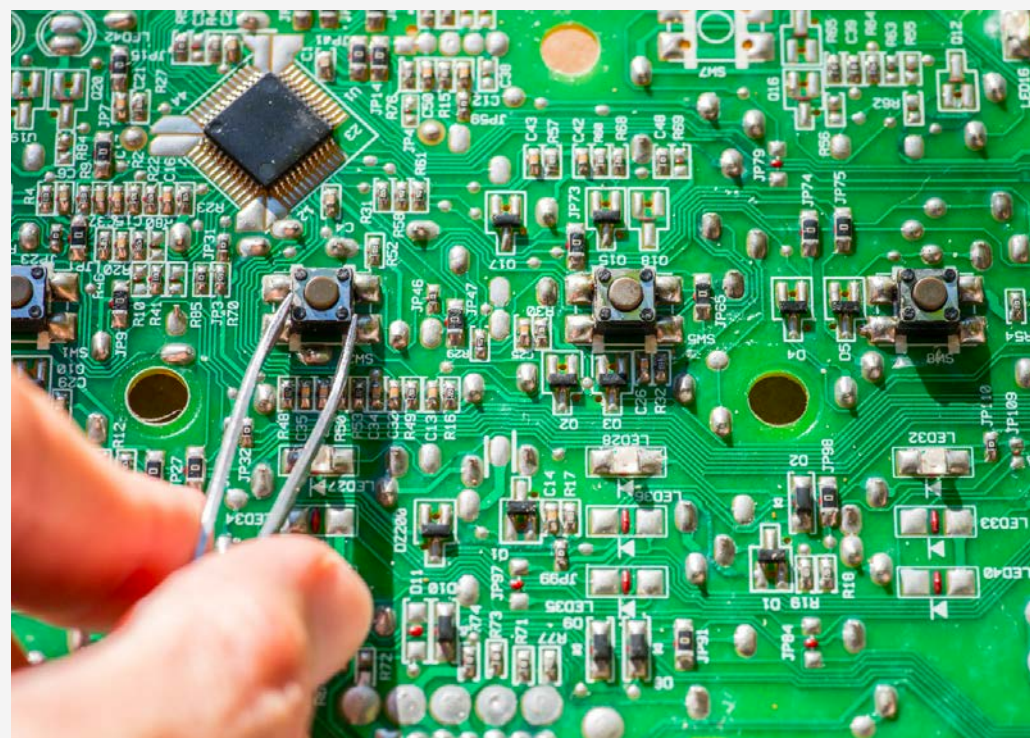
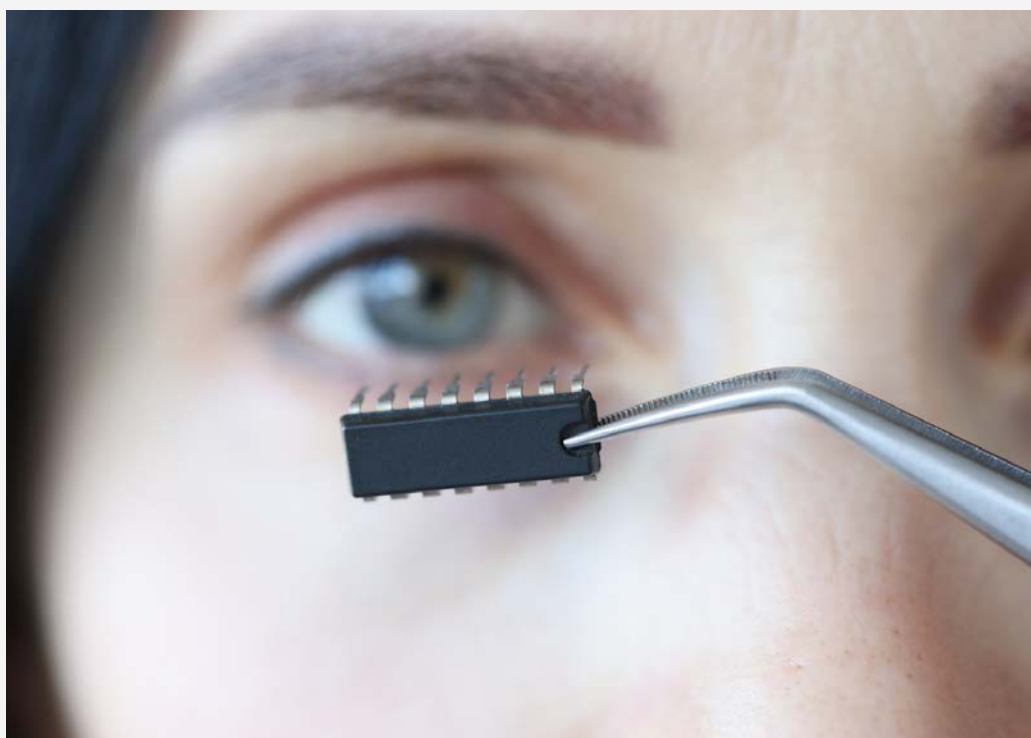


1.6 Saw



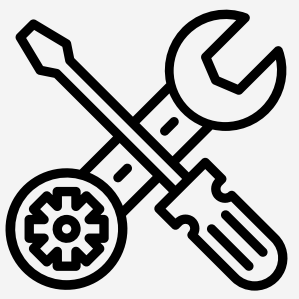


1. Mechanical Robotics Tools (6)



1.7 Tweezers



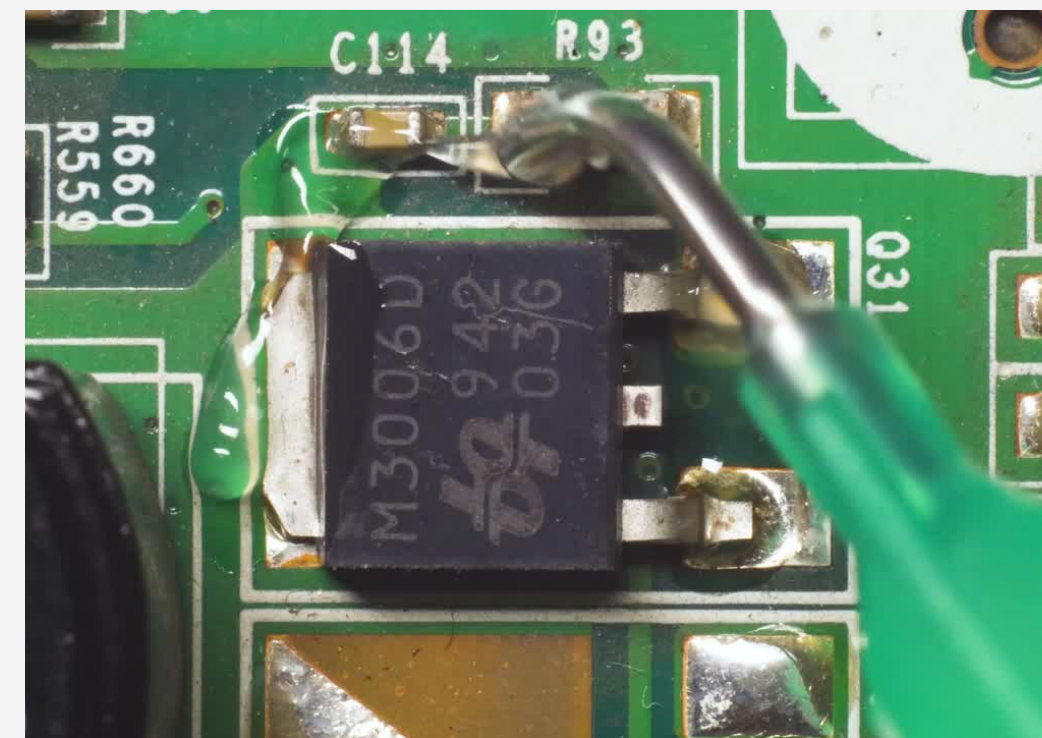


1. Mechanical Robotics Tools (7)

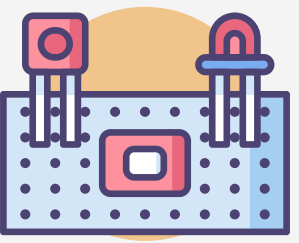


1.8 Safety Glasses

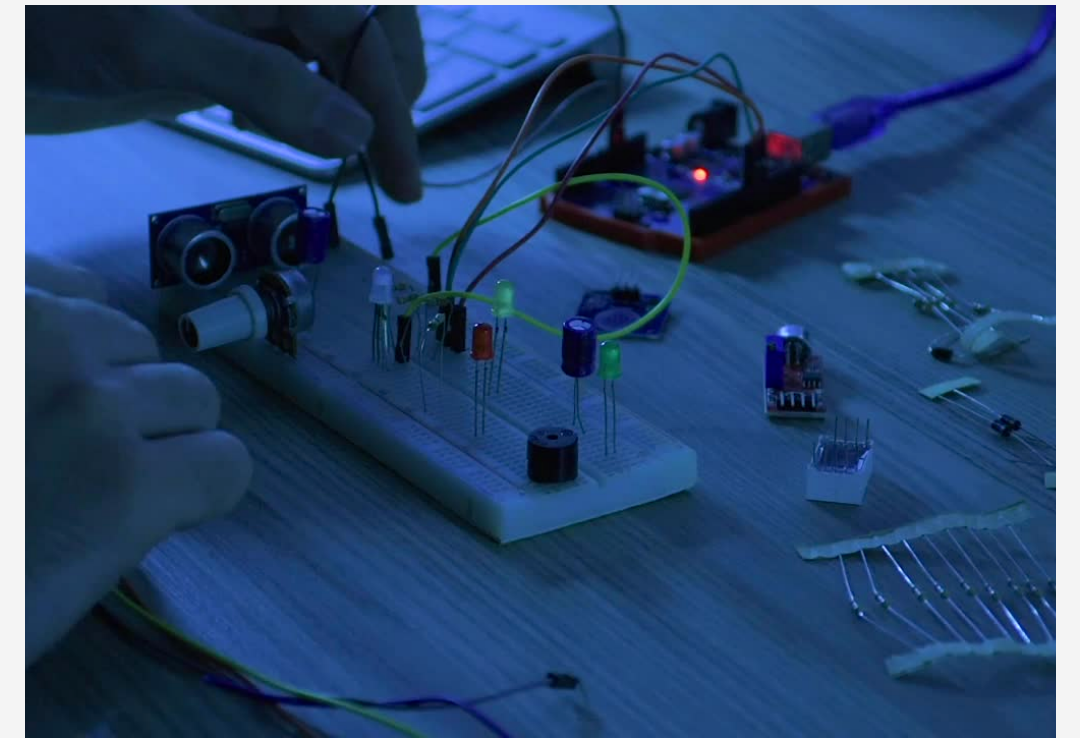
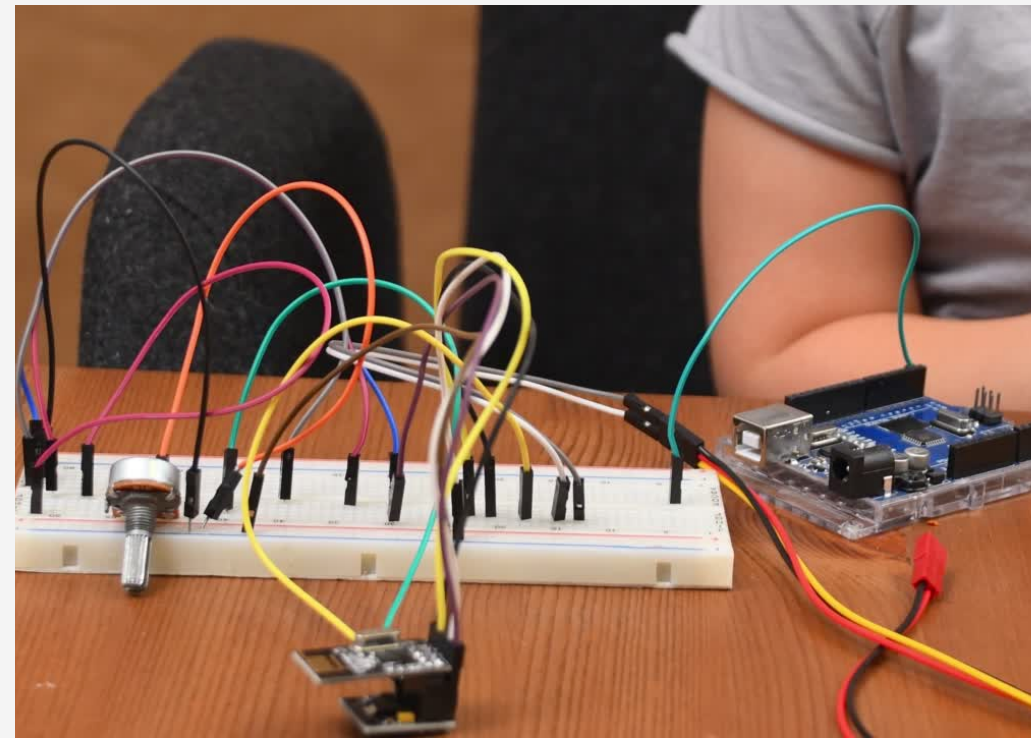
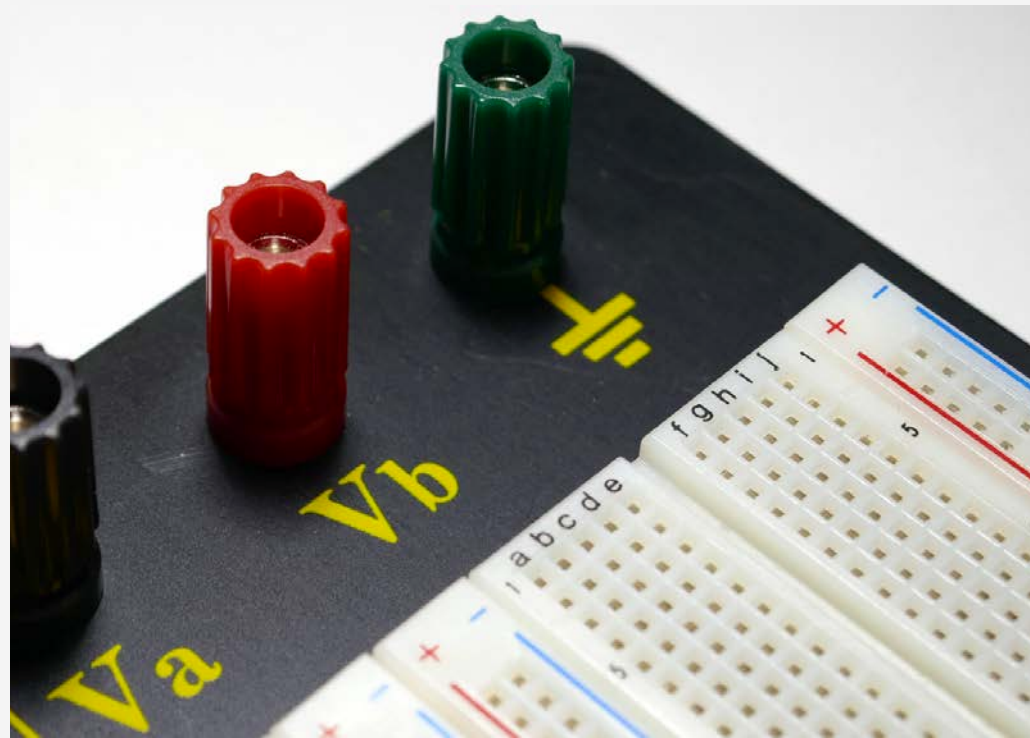
2. Soldering Iron



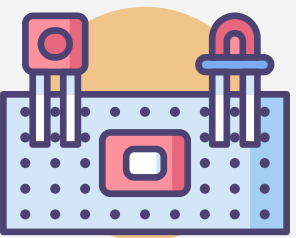
Soldering Iron



3. Breadboard or Protoboard

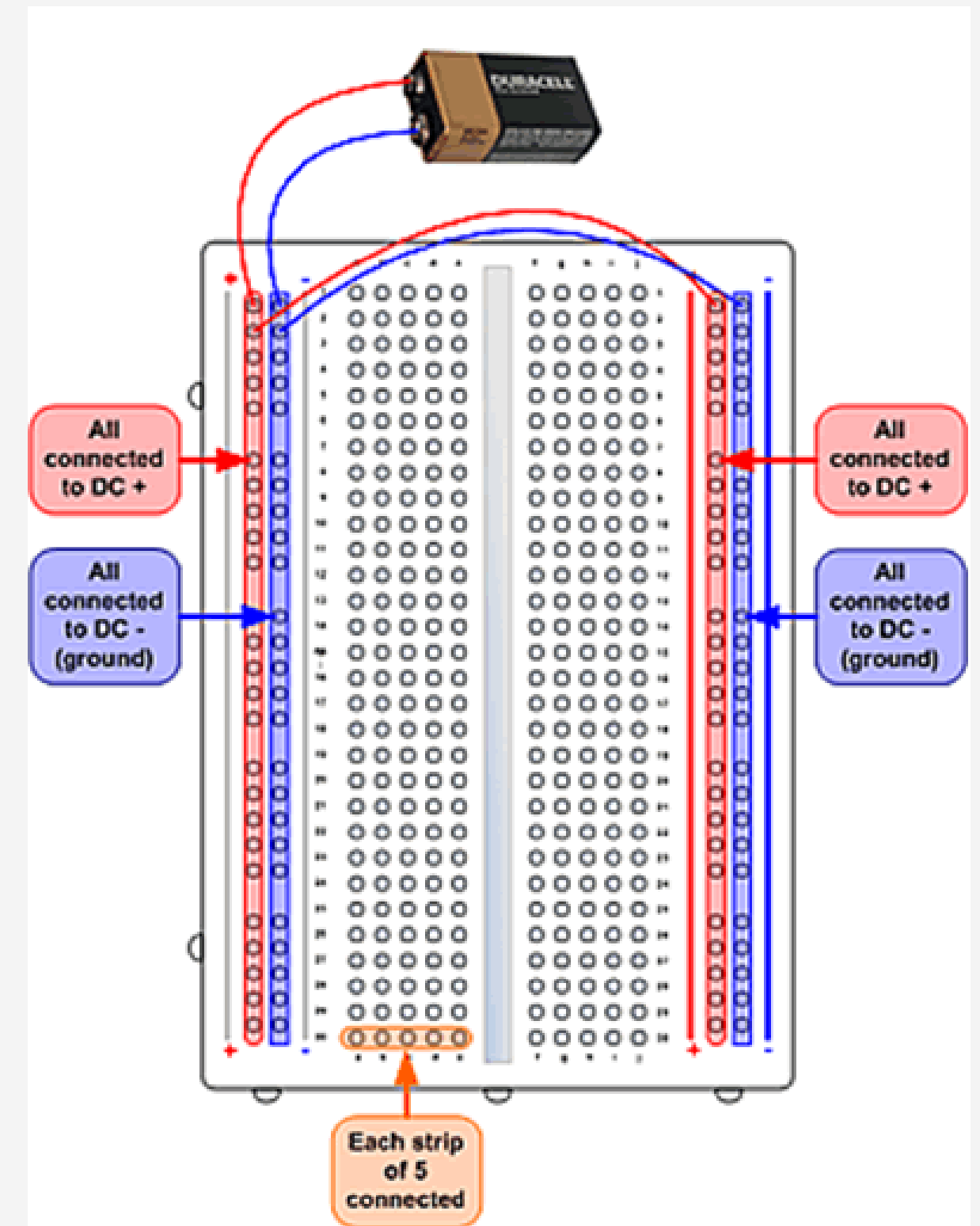
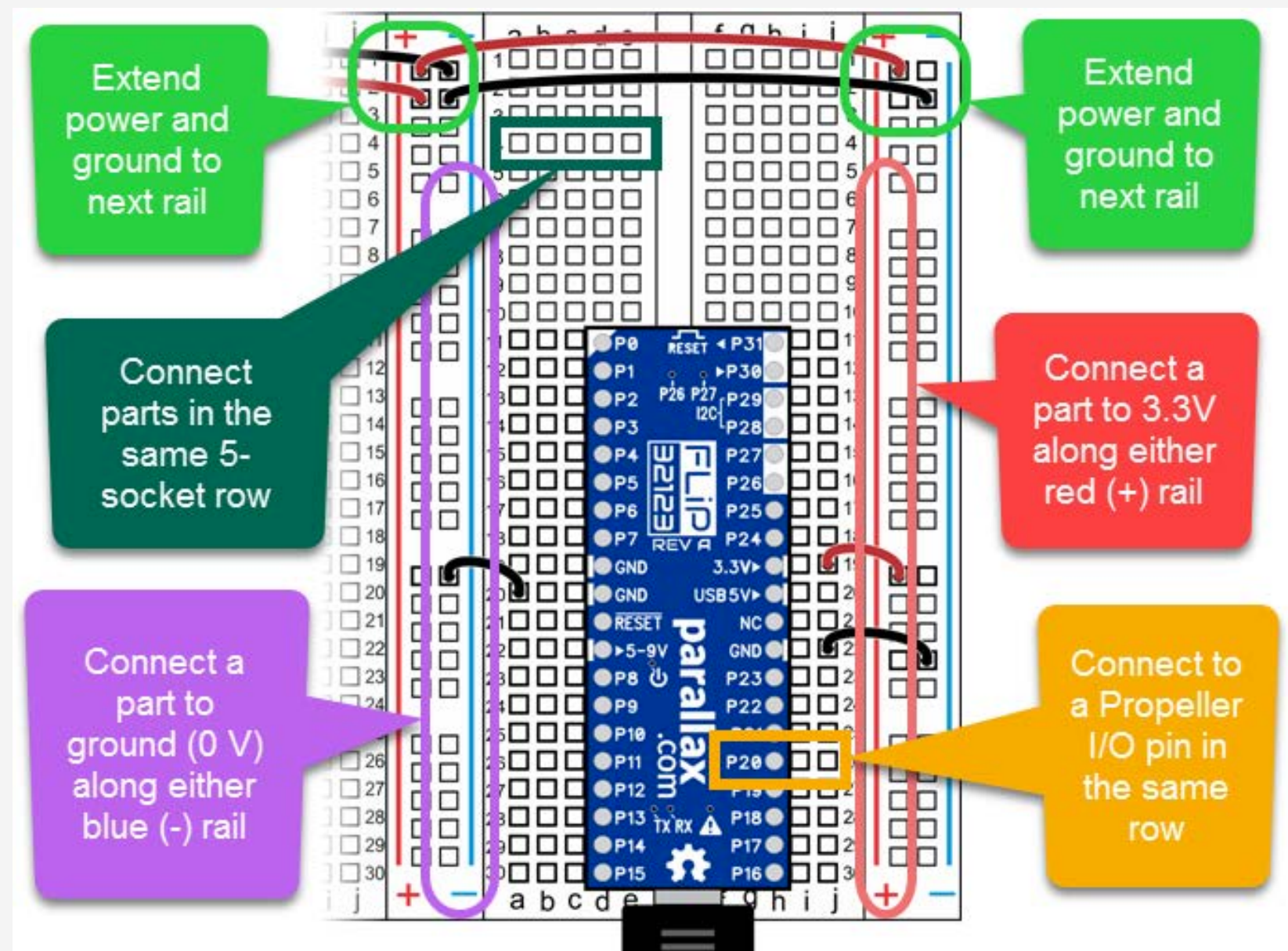


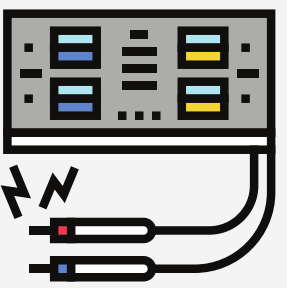
Breadboard



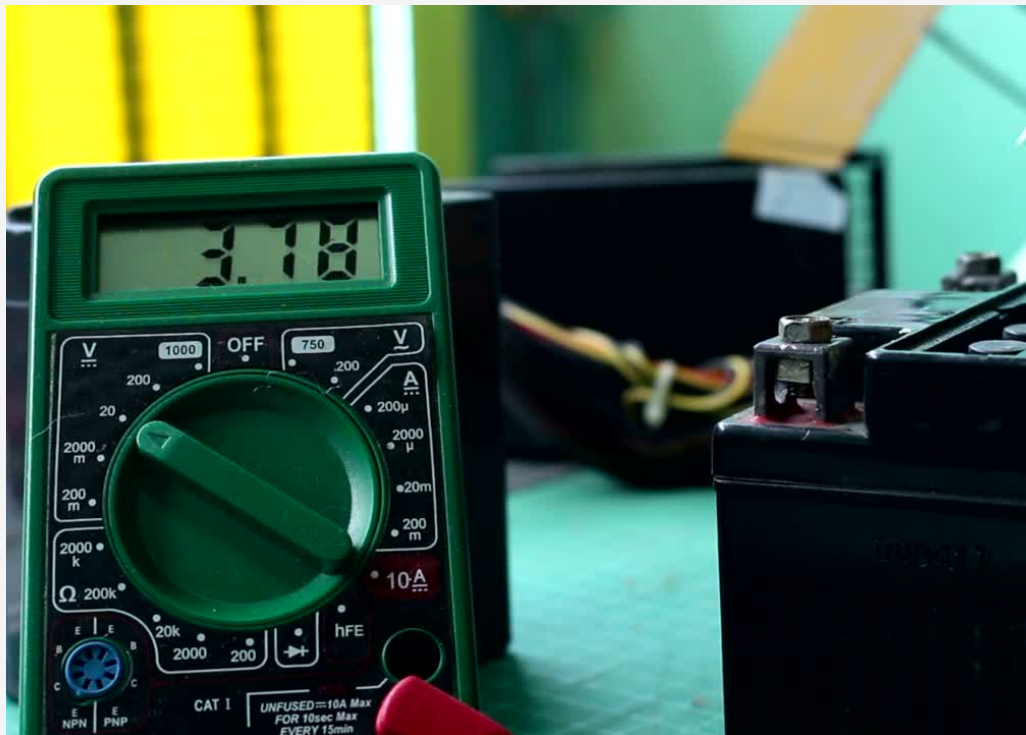
3. Breadboard or Protoboard (2)

Breadboard





4. Electronic Equipment



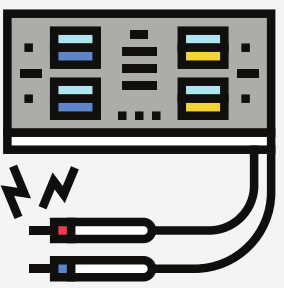
4.1 Multi-meter



4.2 LED's



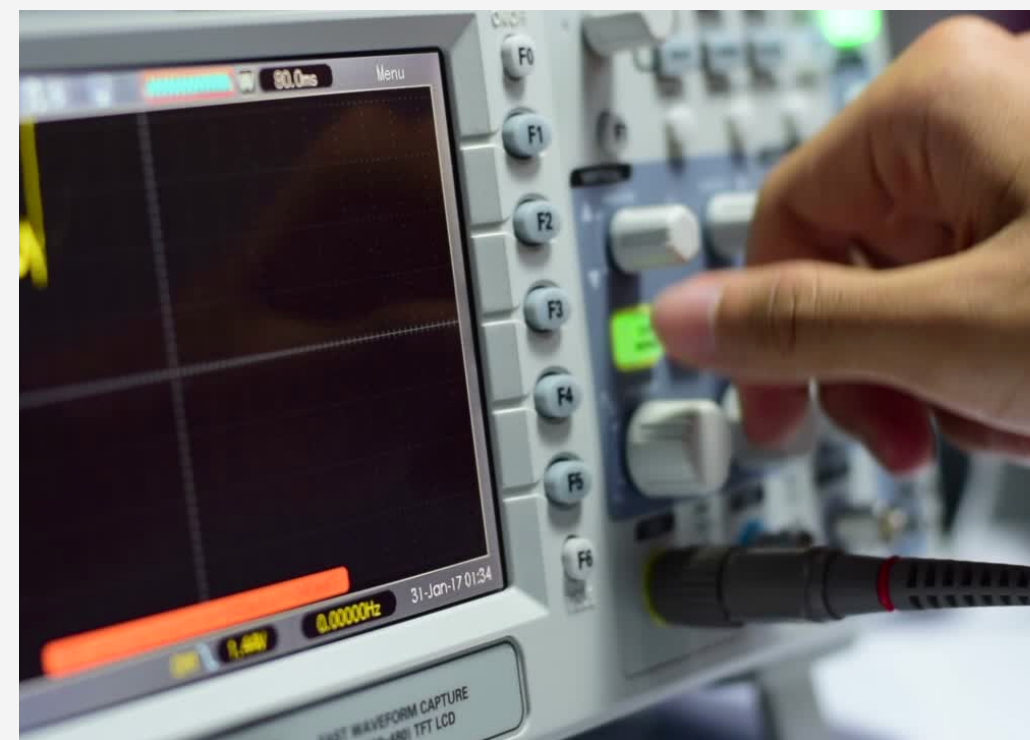
4.3 Signal generators



4. Electronic Equipment (2)



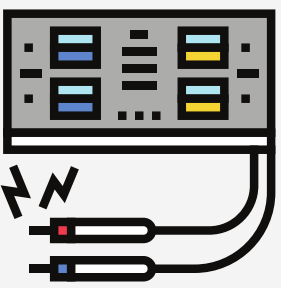
4.5 Variable power supply



4.6 Oscilloscope



4.7 Logic probe

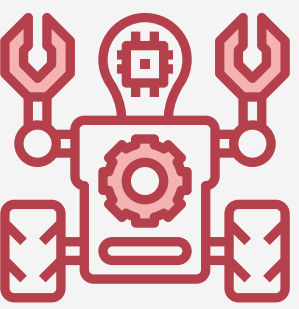


4. Electronic Equipment (3)



4.8 Frequency meters

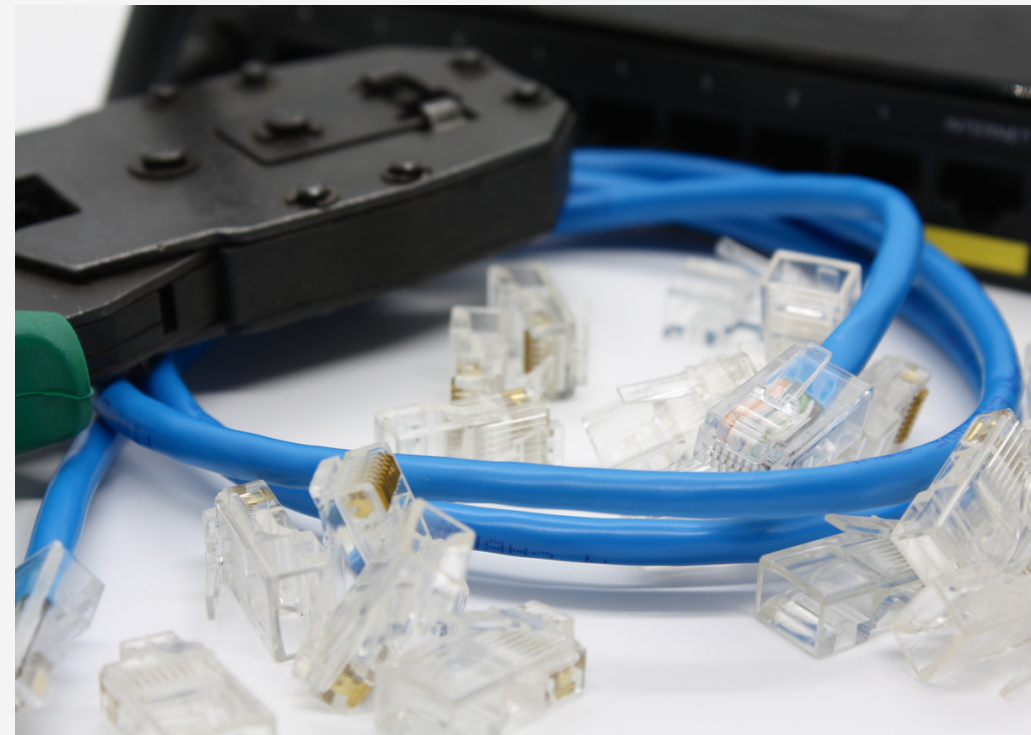




5. Miscellaneous Robotics Tools



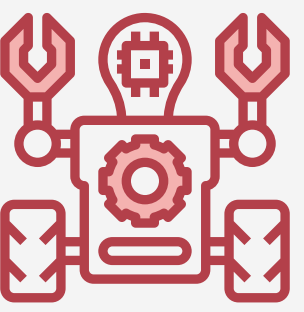
5.1 Insulation
Displacement
Connectors



5.2 RJ45 network
connector



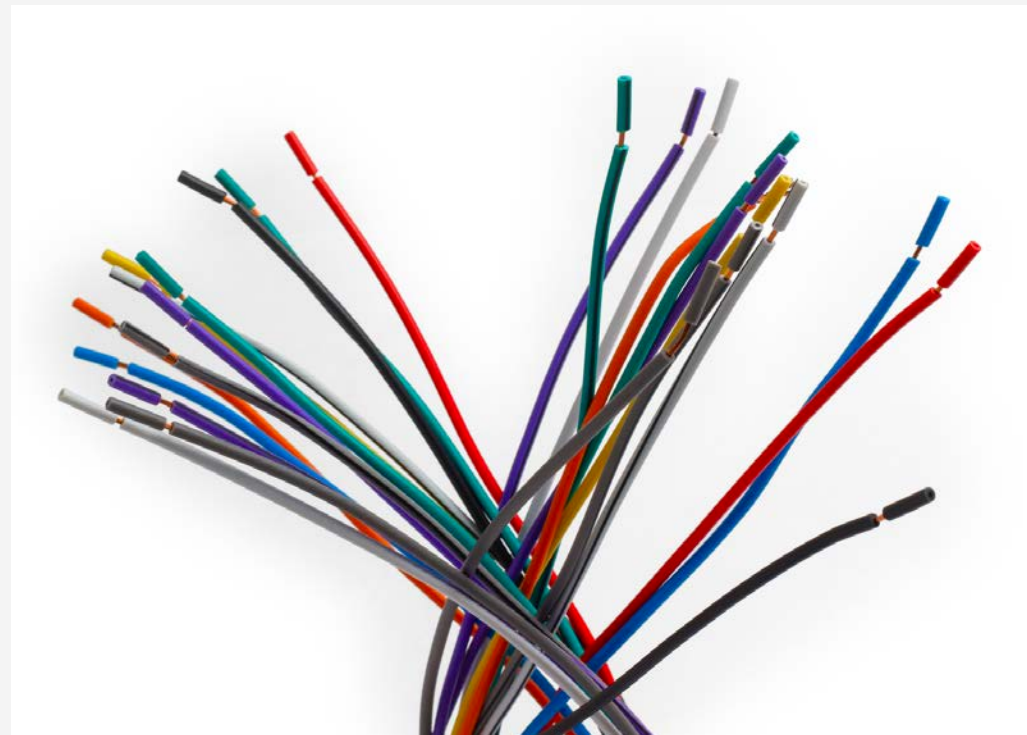
5.3 Hot glue gun



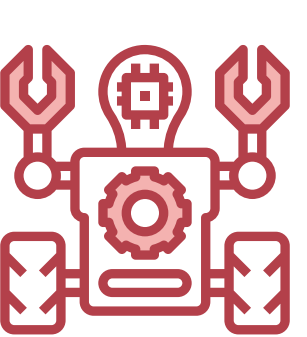
5. Miscellaneous Robotics Tools (2)



5.4 Measuring Tapes



5.5 Wire

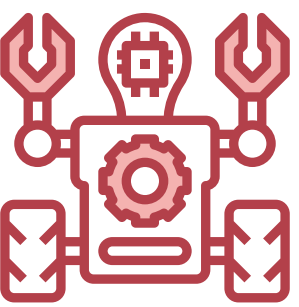


5. Miscellaneous Robotics Tools (3)

5.5 Wire

AWG	Sqmm.	AWG	Sqmm.
0000	107.0	19	0.6530
000	85.0	20	0.5190
00	67.4	21	0.4120
0	53.5	22	0.3250
1	42.4	23	0.2590
2	33.6	24	0.2050
3	26.7	25	0.1630
4	21.2	26	0.1280
5	16.8	27	0.1020
6	13.3	28	0.0804
7	10.6	29	0.0646
8	8.35	30	0.0203
9	6.62	31	0.0415
10	5.27	32	0.0314
11	4.15	33	0.0254
12	3.31	34	0.0201
13	2.63	35	0.0154
14	2.08	36	0.0133
15	1.65	37	0.0095
16	1.31	38	0.0078
17	1.04	39	0.0064
18	0.82	40	0.0050

Sqmm. : Square millimeter (mm²)
AWG : American Wire Gauge
SWG : Standard Wire Gauge



5. Miscellaneous Robotics Tools (4)

Wire example



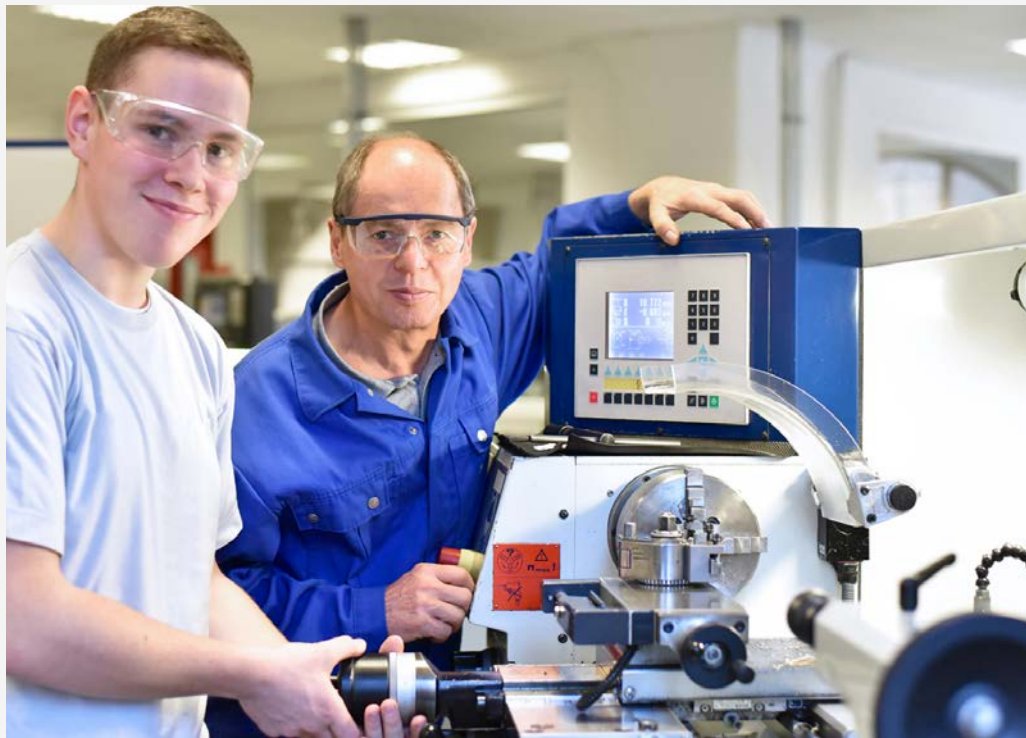
Sqmm. : Square millimeter (mm²)

AWG : American Wire Gauge

SWG : Standard Wire Gauge



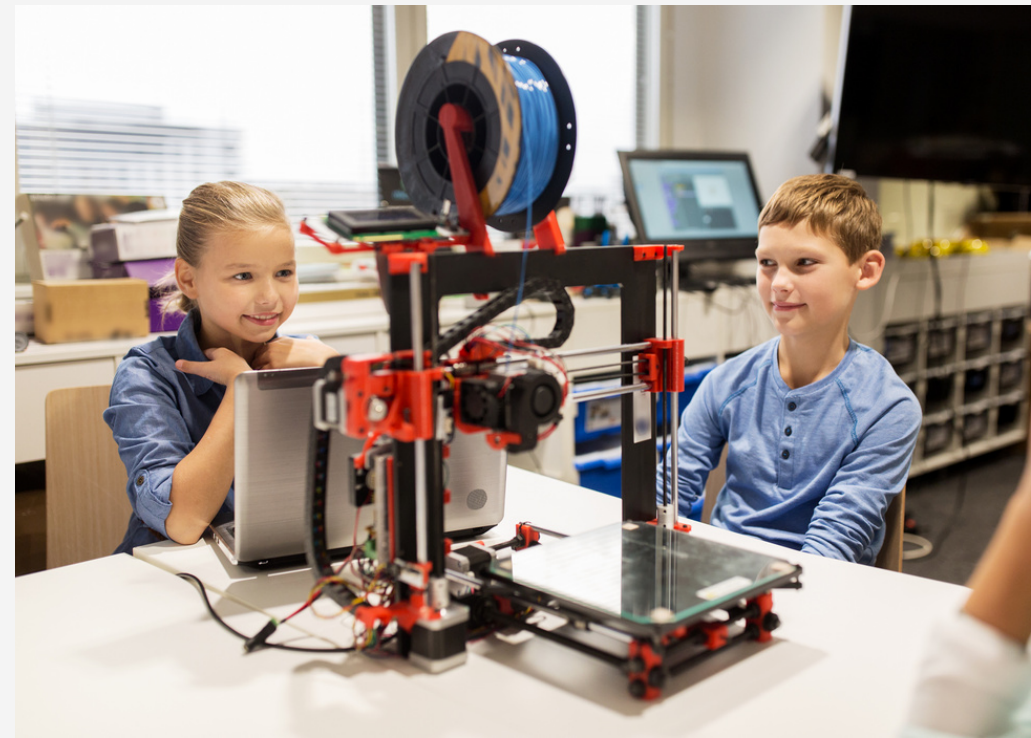
6. Specialty Tools (1)



6.1 Computer Numerical Control (CNC)

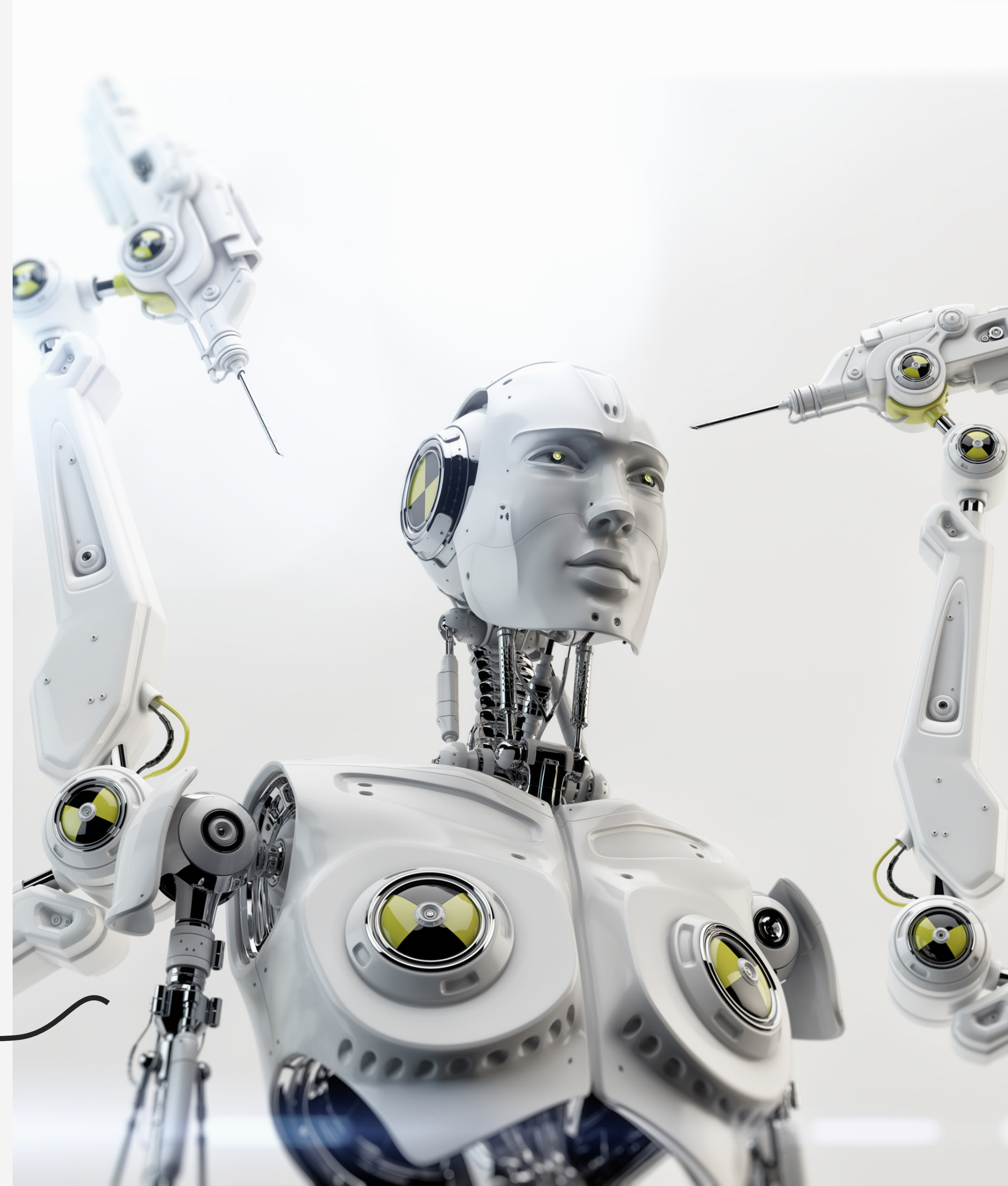


6. Specialty Tools (2)



6.2 3D printer

Chapter 01 : Robotic Platform
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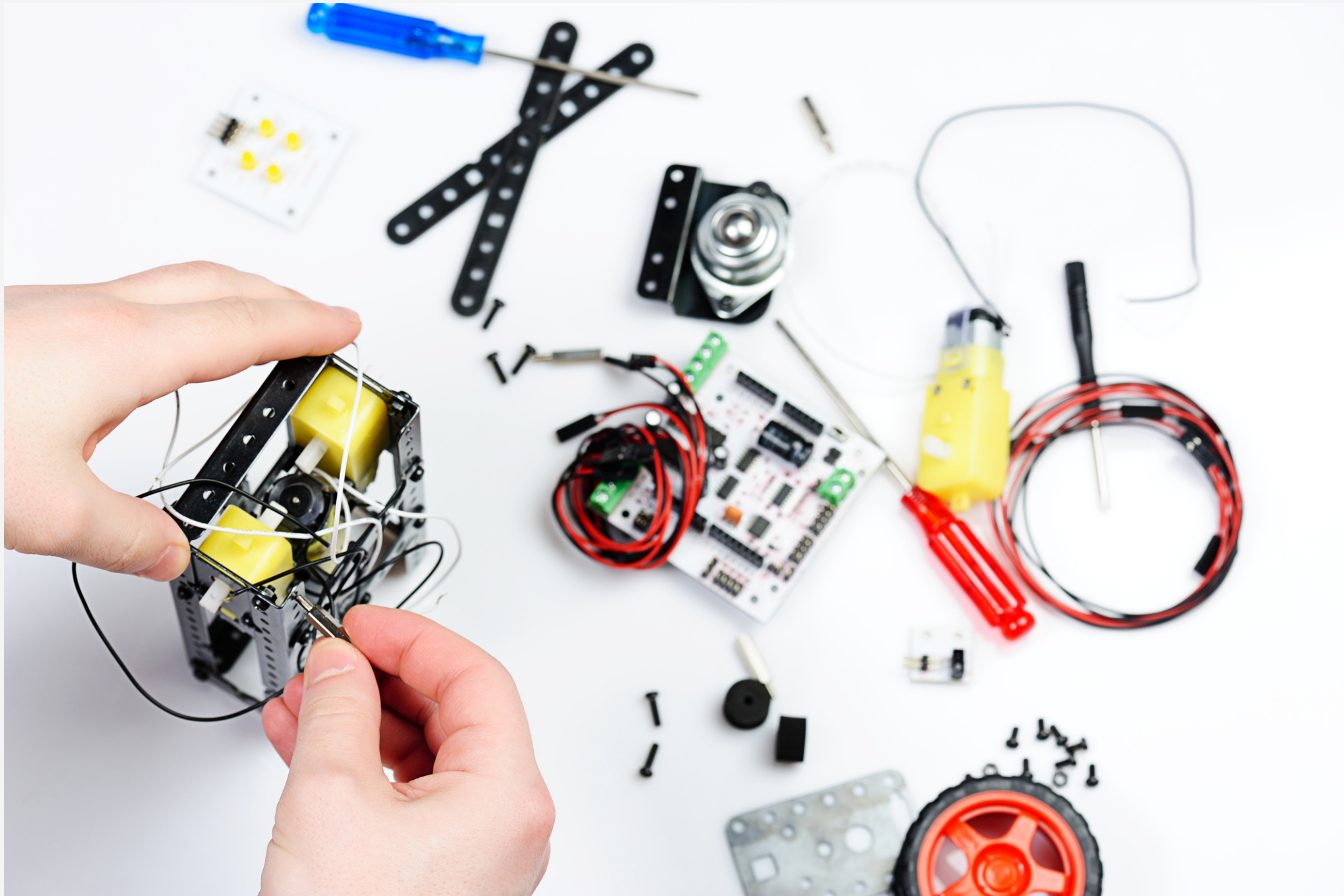




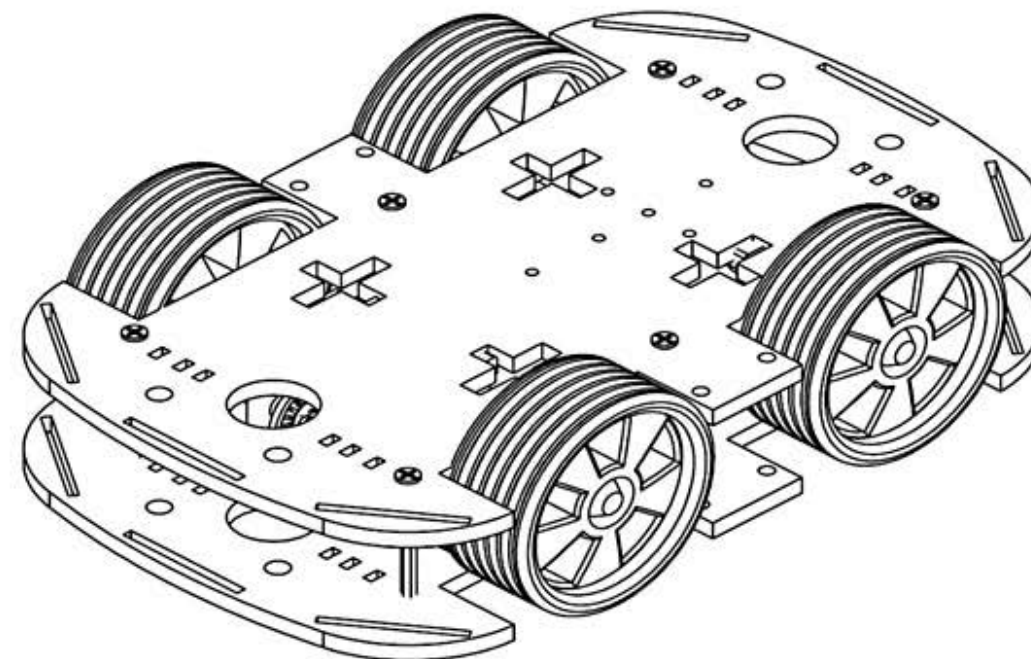
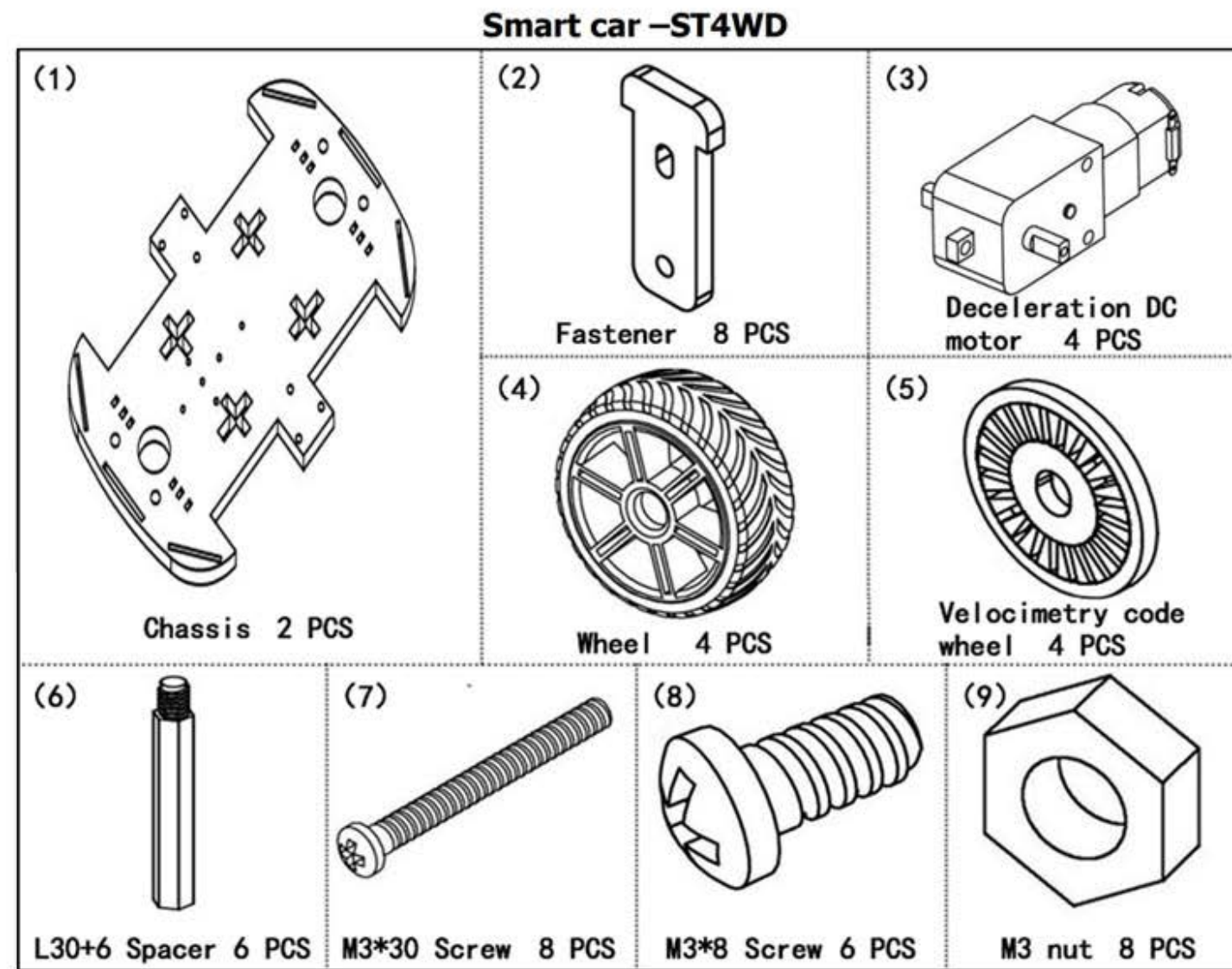
ASSEMBLING



ASSEMBLE MOBILE ROBOT



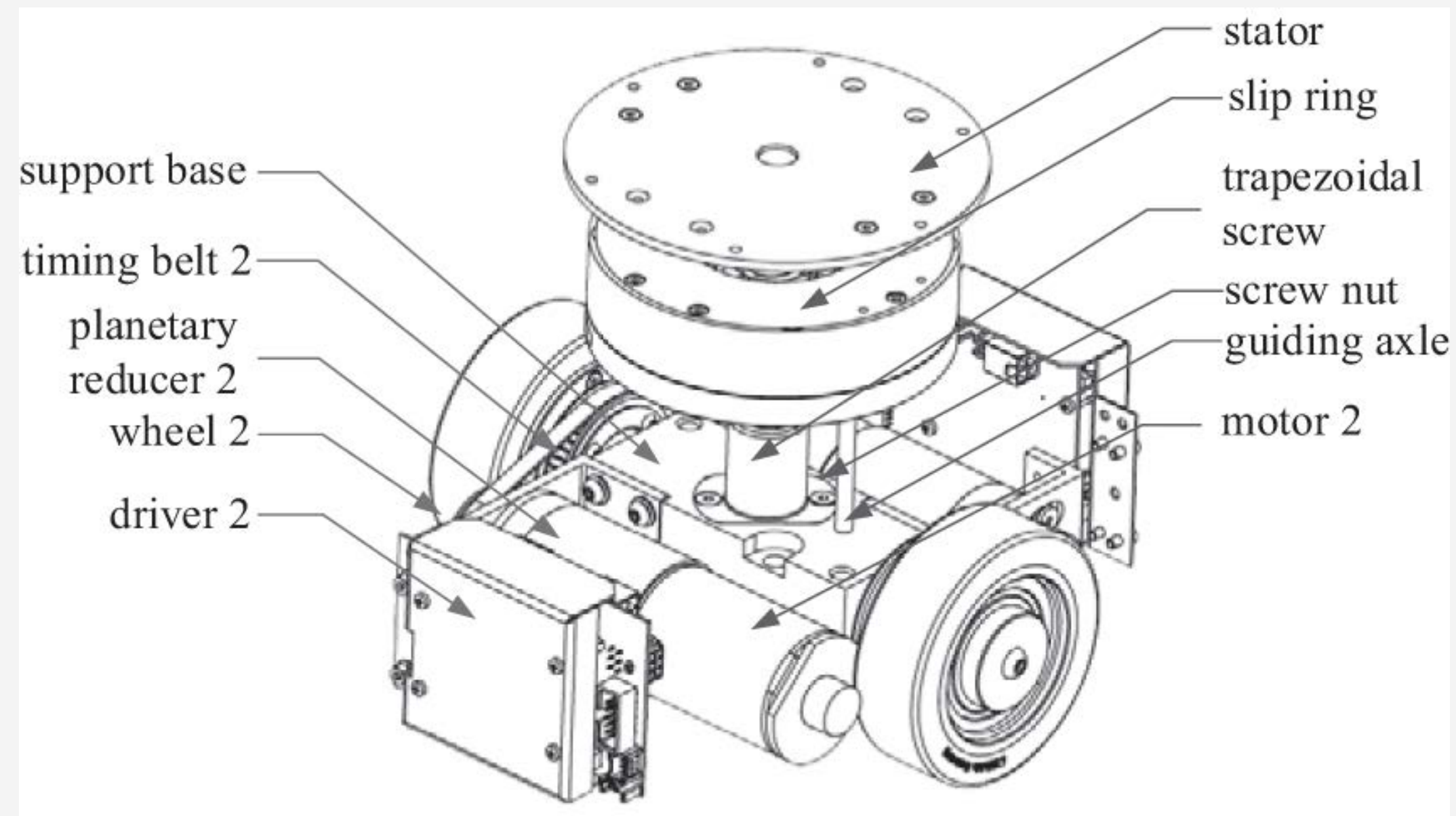
ASSEMBLE MOBILE ROBOT



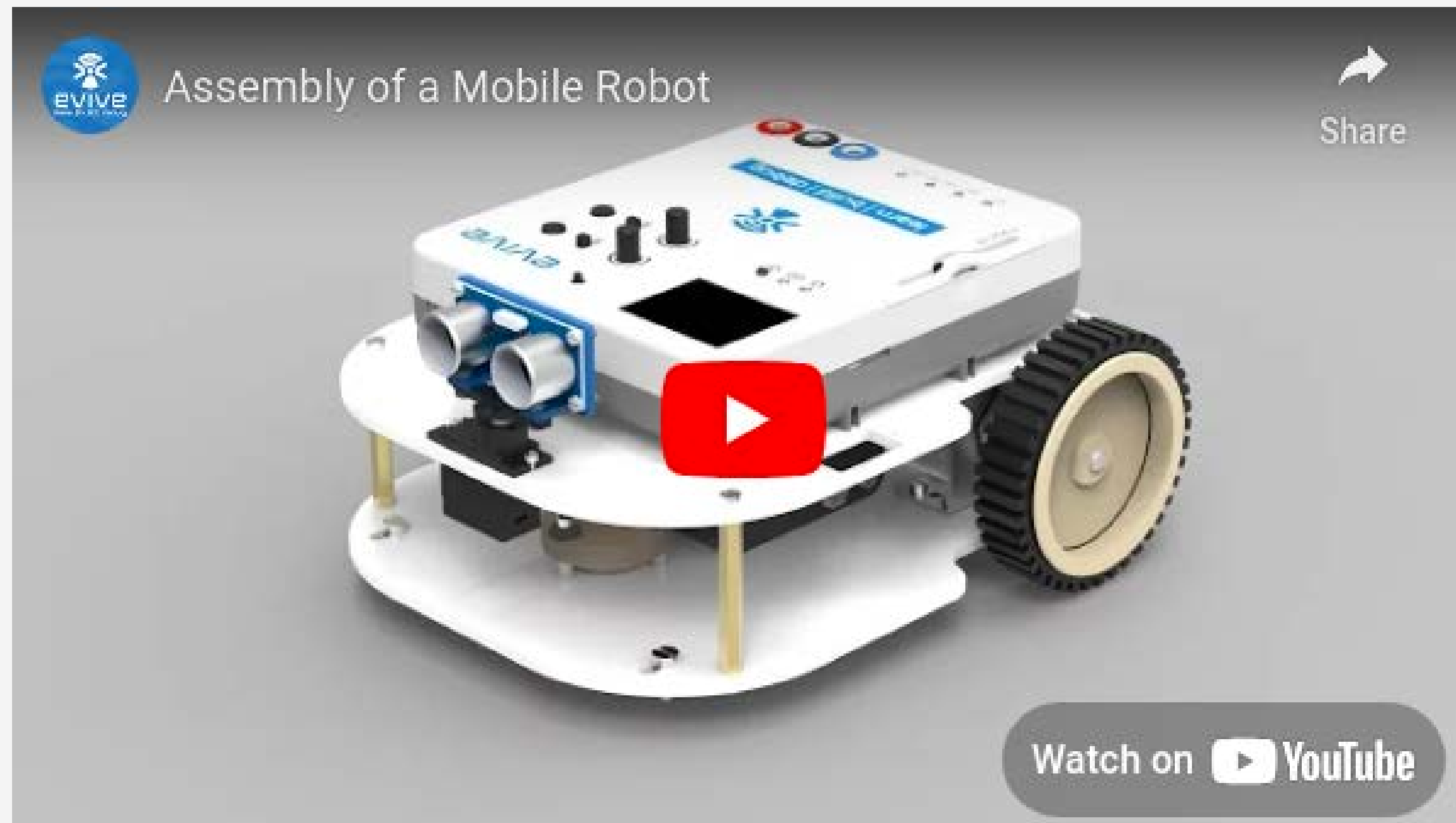
Effect after installation



About **ASSEMBLE MOBILE ROBOT**



About **ASSEMBLE MOBILE ROBOT**



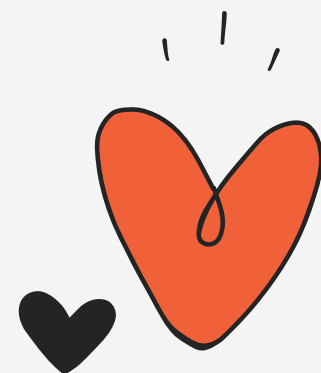
About

ASSEMBLING PROBBIE ROBOT MY PERSONAL FRIEND DIY



About

CAUTION

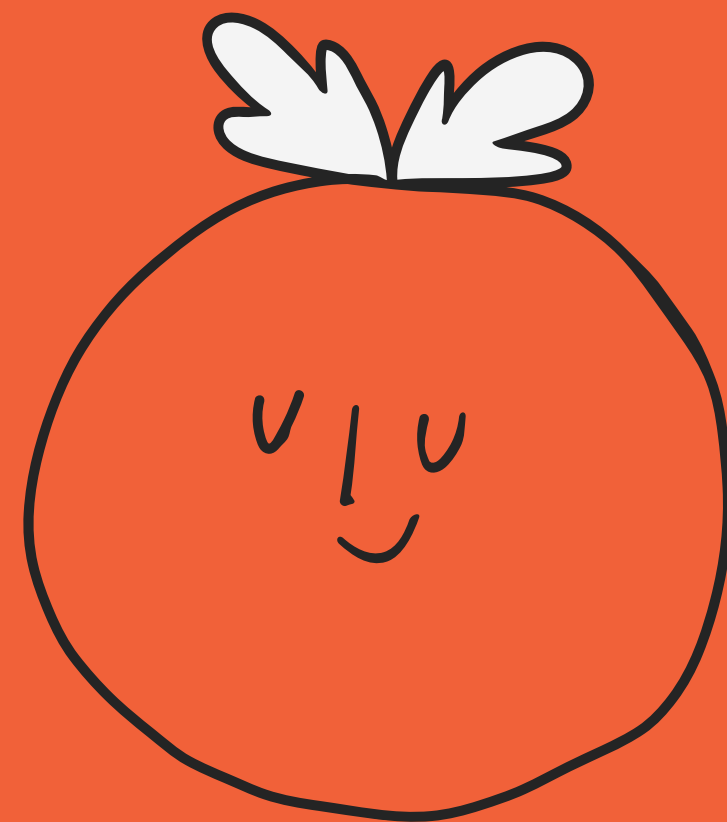




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แล้วพวกรา

อยากสร้างหุ่นยนต์
แบบไหนกัน ?



Consultation Details



LINE

Ruktory

EMAIL ADDRESS

aphirak.th@ssru.ac.th

MOBILE NUMBER

087-900-9441

About

M-BLOCKS 2.0: SELF-ASSEMBLING MODULAR ROBOTS

