mBot2 Lesson Sample Packet

Artificial Intelligence (AI)

AI is when we code machines to mimic the way humans think and solve problems.
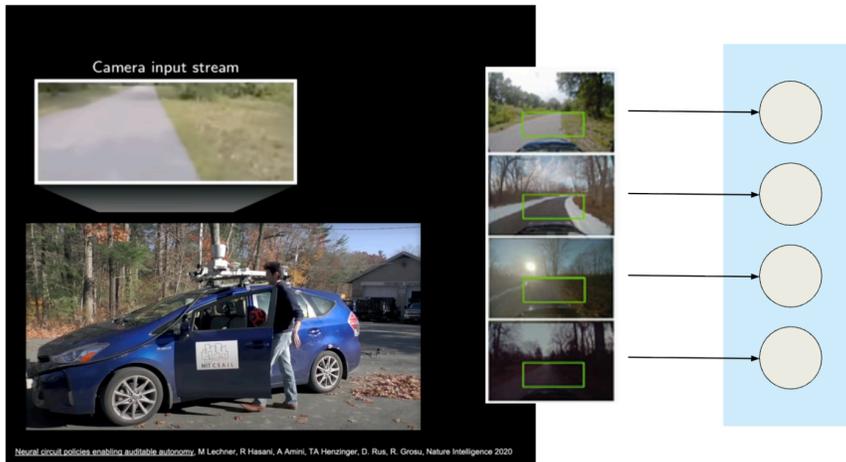Neuroscience, the study of Neurons, has inspired Software Engineers how to code AI.

Neurons are nerve cells.
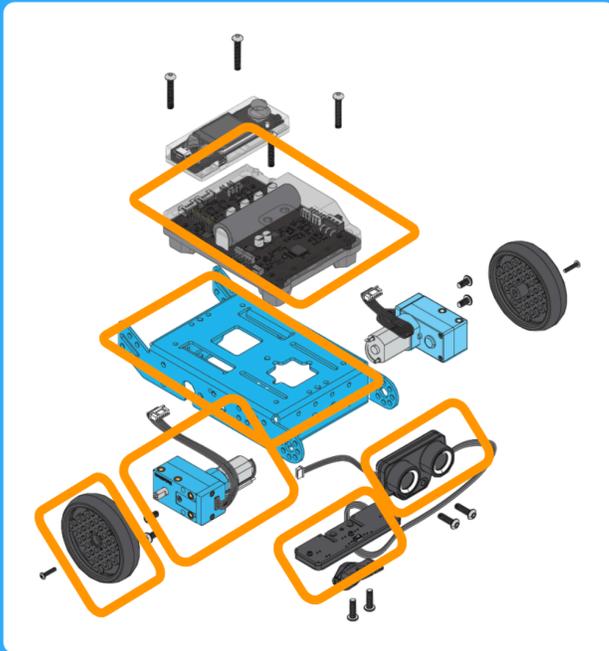You have *billions* of these
cells throughout your body!

Autonomous Vehicles

Software engineers can program Artificial neurons to help cars drive without humans.
First are **Sensory neurons:** They collect information from sensors, like cameras.

Camera input stream

Neural circuit policies enabling auditable autonomy, M Lechner, R Hasani, A Amini, TA Henzinger, D. Rus, R. Grosu, Nature Intelligence 2020
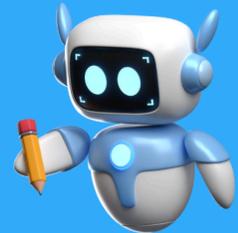
Each picture is
a Sensory Neuron.

mBot2 Diagram

> Draw your mBot2

and label all of the key

components.
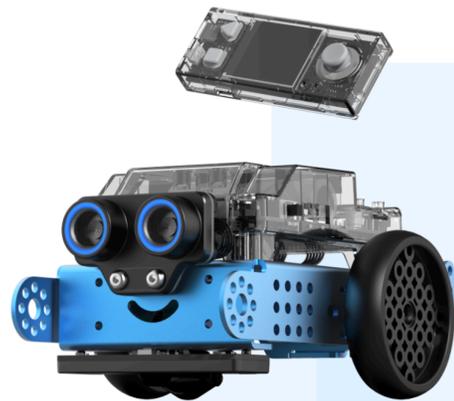

Troubleshooting mBot

If mBot does not function as expected, engineers need to troubleshoot.

What is Troubleshooting?

A form of problem solving, often applied to repair failed products or processes on a machine or a system.

It is a logical, systematic search for the source of a problem in order to solve it, and make the product or process operational again.

Troubleshooting

1. Stop and Think. What is the problem?
2. Look for clues and find causes of problem.
3. Talk together. Find solutions.
4. Choose best solution.
5. Try the solution.
6. Did it work?
   a. YES!! Move on.
   b. No? Check & revise = start back at step 1.