Conveyor Belt Robotics

--Sprint 1 expectations

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10/04/2020
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Product Mission

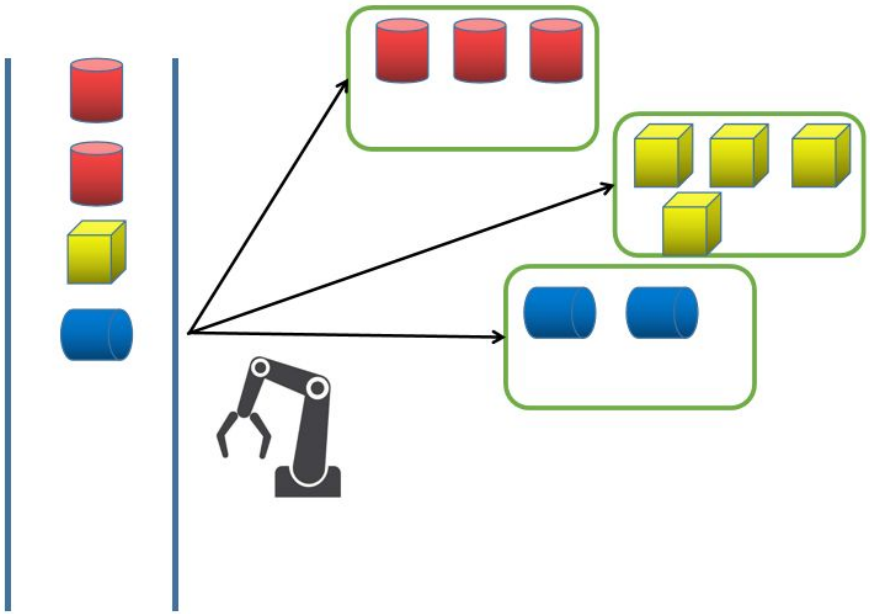
1. Read Synthesized Input Signals
2. Autonomous learning
3. Identify and move objects

MVP

The Arm Robot should understand what it should do and how to do in next step.

User Stories (Additional Functions)

The conveyor delivers multiple kinds of objects. The robot will identify them respectively, and move each of them to their own destinations.



Literature review

1.Image processing

(HOG+SVM) Histogram of Oriented Features and Linear Support Vector Machine

Convolution neural network

2. Control of the robotic arm

Manually programmed

3. Close-loop feedback

Reinforcement learning

Technologies

1. Reinforcement learning
2. HOG+SVM image identification
3. SCM motor control system

Development Environment

Robot command center:

- Raspberry Pi
- Programmed in Python

Accessories, robotic arm command center:

- Simple single chip microcomputers(STM32, e.g.)
- Programmed in C

Thank you for watching !