Line Following Sensor: An Overview
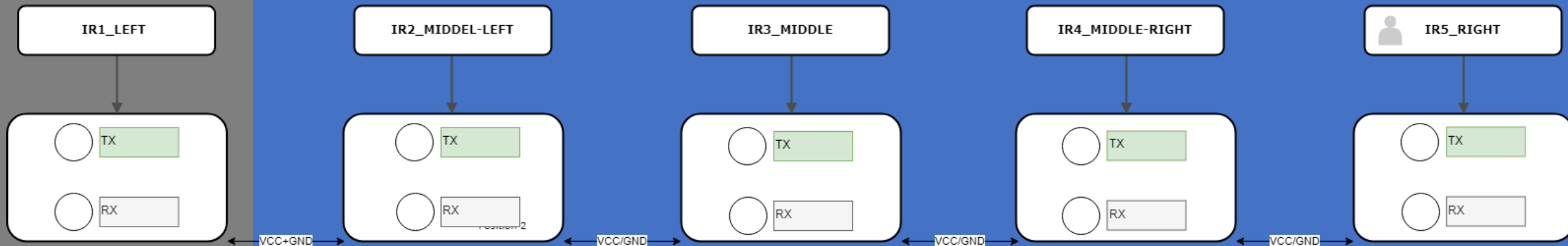
Team 6

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Sensor Specification

- Power: 3.3V to 5V

- Weight: 0.007 kg

- Dimension: 78mm * 18mm

- Detector spacing: 16mm

- Mounting holes size: 3mm

- Detection range: 1cm to 5cm

- 5x ITR20001/T Infrared Detectors

- Five analog outputs (one per sensor)

- XH2.54 7PIN wire connector for interface

Theory of Operation

- Signal outputs of the sensor vary depending on the color and distance of desired object.

- A detected **white** surface **increases** the analog output voltage

- A detected **black** surface **decreases** the analog output voltage

- Seen below is the layout of the sensors.

IR1_LEFT	IR2_MIDDEL-LEFT	IR3_MIDDLE	IR4_MIDDLE-RIGHT	IR5_RIGHT
TX RX	TX RX	TX RX	TX RX	TX RX

VCC+GND   VCC/GND   VCC/GND   VCC/GND

Purchasing Options

Sensor:

- https://www.amazon.com/Tracking-Tracker-Infrared-ITR20001-Detector/dp/B073VH14SP/ref=sr_1_12?keywords=line+follower+sensor&qid=1556857415&s=gateway&sr=8-12

OR:

- https://www.ebay.com/itm/Tracker-Sensor-Module-5-ch-ITR20001-T-Robot-Infrared-Line-Tracking-Range-1cm-5cm/252646977876?hash=item3ad2eef154:g:F~cAAOSwiDFYM8H1&frcectupt=true

- Cable: https://www.ebay.com/itm/323744976812?ul_noapp=true