

## **Robot Perception: Using VEX Sensors and iPhone6 Camera**

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### **Abstract**

Robots are critical assets used extensively in manufacturing, health care, aerospace industry and for space exploration. The industry is in great need of qualified professionals that can meet the demand of the ever-changing technologies and latest innovation. Robot perception is greatly researched and in demand in both commercial application and military war theaters. Image and video capture via cell phone camera and VEX sensors will provide in-depth knowledge about the concept of image processing at the middle school classroom level. This study examined the performance of VEX sensors and an iPhone6 camera as an introduction to robots perception to middle school students. VEX line followers, ultrasonic rangefinders, and an iPhone camera were used to perform object recognition and conduct robot navigation within a classroom robotics competition field setting.

***Research question: How to educate and increase the knowledge base of middle schools students to build an intelligent robot with video and image processing?***