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| **Student Xinran Li-12982765** | | | **Project: Control the Duckiebot to avoid obstacles** | |
| **LEARNING OBJECTIVES**  (What do you want to achieve from doing the Project? [Hardware and software, control and planning, sensing and perception])     1. Expand my understanding of Python programming language which is related to Robotics   Learning how to use YOLO to detect and classify the duck and traffic signs  Learning how to control Duckiebot to perform different behaviours which depend on different road condition | **RESOURCES & STRATEGIES**  (how are you going to achieve your objectives?)    Using Duckiebot, duck and traffic signs  Using YOLO to detect duck and traffic signs  Python programming language | **WHAT IS TO BE ASSESSED**  (Outline the deliverables – what are you going to produce?)  Control the Duckiebot to detect the lanes and follow the lanes.  Using YOLO to recognize the duck and traffic signs.  Control Duckiebot with different behaviours for pedestrian crossings and normal road conditions if pedestrians are present (ducky’s) | | **CRITERIA FOR ASSESSMENT** (Assign grades/marks for different levels of accomplishment)  Detect the lane markings(10%)  Stay with lanes(15%)    Detect pedestrian ducky and traffic sign (2\*7.5% - 15%)  Compute 2D position of ducky relative to traffic sign or lane marking (20%)  Stop if ducky is on crossing – at the crossing (20%)  Overtake ducky if it is in lane and vehicle can fit on road (20%) |
| **PEER TEACHING** (Outline what concept you will teach others and how your knowledge transfer will be measured) | | Ways of computing 2d position of Ducky relative to traffic signs | | |