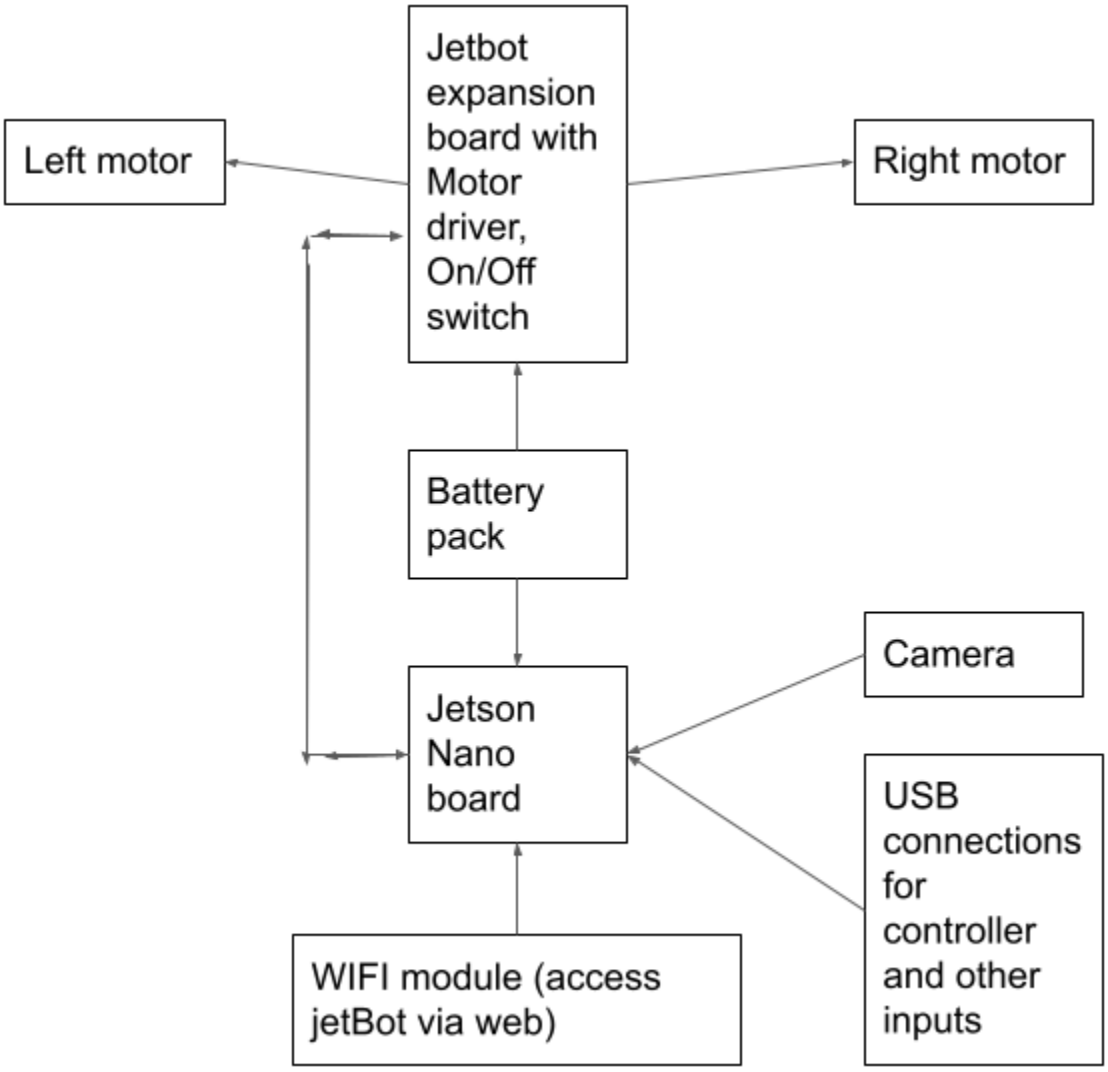
1. **Introduction:** Build a waveshare jetBot AI kit based on Nvidia Jetson Nano 4GB. The challenges that the bot will be tested on are as follows: collision avoidance, human tracking, cross sign tracking and bot stop when the cross sign is close to the camera.
   - 1.1. **Goal of the project:** I will build a trailer with a cross sign that visible to the jetbot, then, I will start to pull the trailer on a path with some obstruct in slow speed, the jetbot should be able to track and follow the trailer while avoiding the obstruct on the way, in the end the jet bot would climb on to the deck of the trailer and stop when the cross sign is close to the camera of the jetbot.
   - 1.2. **Level of Autonomy:** Should be level 3 since it only has one camera to detect the environment around the Jetbot and it can make informed decisions for itself, such as turning, starting and stopping. But it still requires human supervision. The person must remain alert and ready to take control if the system is unable to execute the task. One of the possible target markets is that the cars could load themselves into the cargo or semi truck for transportation.
   - 1.3. **Description:** system overview



2. **Related work**

The flying drone track and land on a moving platform inspire me about this project. Current solution from waveshare wiki and nvidia jetbot GitHub wiki helps me to finish this project.

3. **Team Organization**

   Solo project

4. **Software and developing tools**

   4.1. Software: Nvidia developer, Jypyter notebook, python, github, ROS

   4.2. Laptop: Windows 10, VMware Workstation player with latest version of Ubuntu

   4.3. Hardware needed: wareshare JetBot AI kit with nVidia jetson nano 4GB

5. **List of Milestones**

   Setup laptop with VMware Ubuntu and purchase the JetBot AI kit before 10Jul2021

   Finish assembling the JetBot kit, install the essential software into the Jetson and test the basic function before 18JUL2021.

   Jetbot able to avoid collision, track and follow cross sign on or before 24JUL2021.

   Jetbot is able to stop when the cross sign is close to the camera before 28JUL2021.

   Finish project presentation video on or before 31JUL2021.