Phase	ID	Task Title	Description	Update date	Status	Assigned to
1: Make it running	1	Print the demo track (Part 1)	Print the demo track to test the car, only the first half	12/21/2025	In progress	Duy
	2	Buy and attach the battery	Buy and attach a battery Specs: 5200mah, 11.8v battery	12/7/2025	Done	Quoc, Duy
	3.1	Car kit running - Bosch's image	Make the car running using the image from bosch	12/14/2025	Done	Duy
	3.2	Car kit running - Raspberry OS	Make the car running using the image from bosch	12/14/2025	Done	Vinh
	4	Setup pi's working environment		12/14/2025	Done	Vinh
	5	Setup working environment on pc	Install linux, gazebo, setup python environment, setup github account	12/22/2025	In progress	All members
	6	Calibrate the car	Calibrate speed of the car and the servo	12/21/2025	In progress	Duy, Quoc
	7.1	Develop a simple obstacle detection	Develop a simple obstacle detection while the car is running	12/21/2025	Done	Dang, Phuc
	7.2	Obstacle Algo Smoothing	Filter noise from the detection so the car doesn't stop randomly. Tune "Stop Distance".	12/20/2025	To do	Dang, Phuc
	8.1	Create Phase 1 Video	Combine: 1. Desk test (wheels spinning), 2. Screen recording of "Obstacle Detection", 3. Short drive on demo track.	12/22/2025	Done	Vinh
	8.2	Write status report		12/22/2025	Done	Vinh
	8.3	Draw Architecture Diagram	High-level block diagram: Camera -> Pi 5 (Python) -> Serial -> STM32 -> Motors.	12/20/2025	Done	Vinh
2: Improve the Car	1	Plan Phase 2 Details	Break down the Lane Keeping and Sign Detection tasks	12/22/2025	In progress	All members
	2	Buy the Distance ToF Sensor	Purchase VL53L0X or similar Time-of-Flight sensor for precise stopping distance.	12/21/2025	In progress	Quoc, Duy
	3	Debug Dashboard (Web)	Stream the log from raspberry pi to the dashboard	12/21/2025	To do	Vinh, Quoc, Duy
	4.1	Integrate ToF (Hardware)	Wire the ToF sensor to the STM32 (I2C) or Pi. Verify data reading.	12/22/2025	To do	Quoc, Duy
	4.2	Integrate ToF (Algorithm)	Update "Obstacle Detection" to use ToF data instead of just Camera (more reliable).	12/23/2025	To do	Dang, Phuc
	5	Print Track (Part 2)	Print the curves and intersection parts of the demo track for advanced testing.	12/24/2025	To do	Duy
	6	Lane Detection (Core)	CORE TASK. Implement HSV Color Thresholding + Histogram/Centroid finding to locate lane center.	12/25/2025	To do	Dang, Phuc
	7	Sign Detection (Basic)	Train a small model (YOLO) or use Template Matching for "STOP" and "Priority" signs.	12/26/2025	To do	Dang, Phuc