

Just1: An Open-Source Autonomous Mecanum Wheel Robot

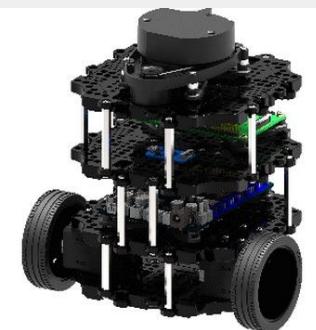
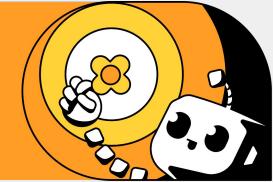
Nicolas Rodriguez

Breaking news: Open Source is cool

2



LeRobot



But Hardware is expensive

TURTLEBOT3 Burger



Raspberry Pi® 4 (2GB)

TURTLEBOT 3 BURGER RPI4 2GB...

\$758.20

OUT OF STOCK »

Compare

TURTLEBOT3 Burger



Raspberry Pi® 4 (4GB)

TURTLEBOT 3 BURGER RPI4 4GB...

\$783.50

ADD TO CART »

Compare

TURTLEBOT3 Waffle Pi



Raspberry Pi® 4 (4GB)

TURTLEBOT 3 WAFFLE PI RPI4 4G...

\$1,933.61

ADD TO CART »

Compare

TURTLEBOT3 Waffle Pi SALE



Raspberry Pi® 4 (2GB)

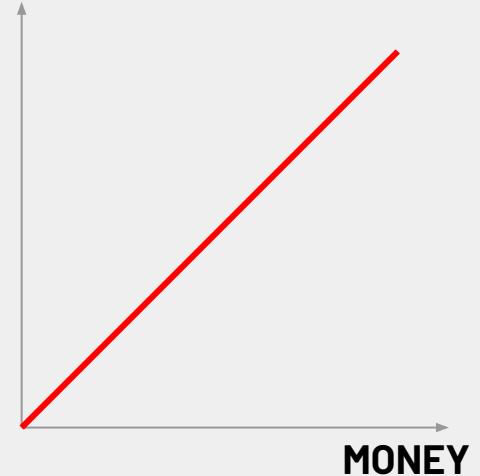
TURTLEBOT 3 WAFFLE PI RPI4 2G...

★★★★★ \$1,825.34 \$1,642.80

ADD TO CART »

Compare

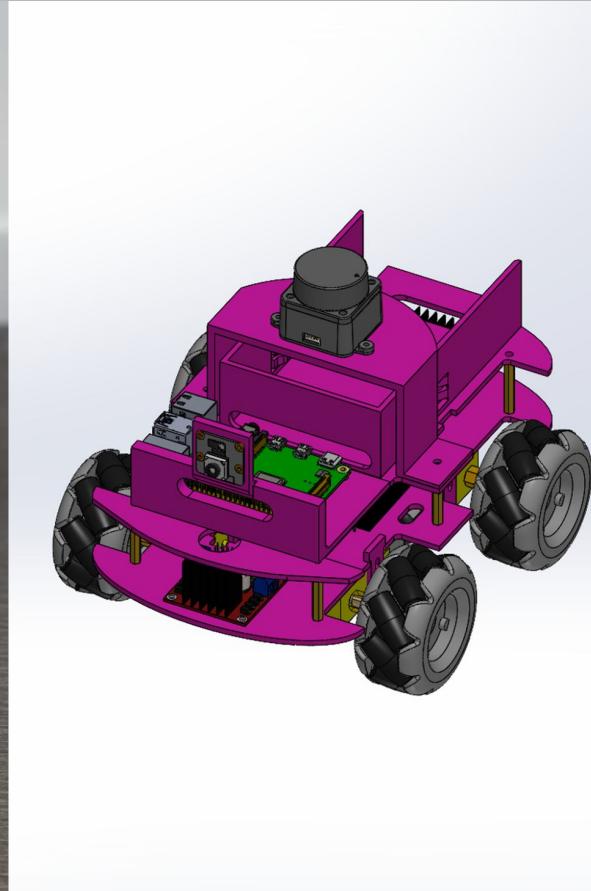
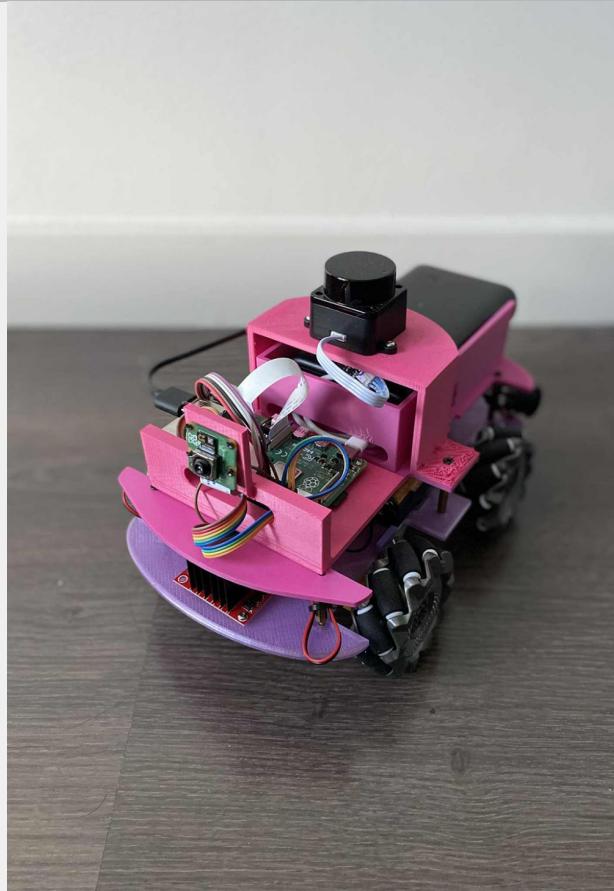
MONEY



Just1: Autonomous Mecanum Wheel Robot

4

• Raspberry Pi v4 8 Gb	\$80
• LD19 2D Lidar	\$70
• Pi Camera 3	\$25
• 5V 3A Power Bank	\$25
• 4 Wheel + TT motors	\$15
• 2 L298N Drivers	\$15
• 6 AA Batteries	\$10
• Micro SD Card	\$5
• IMU 6050	\$5
• New knowledge	Invaluable
Total	\$250

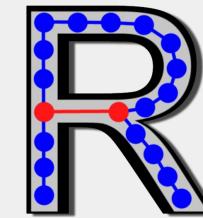


Just1: Autonomous Mecanum Wheel Robot

5



NAV 2

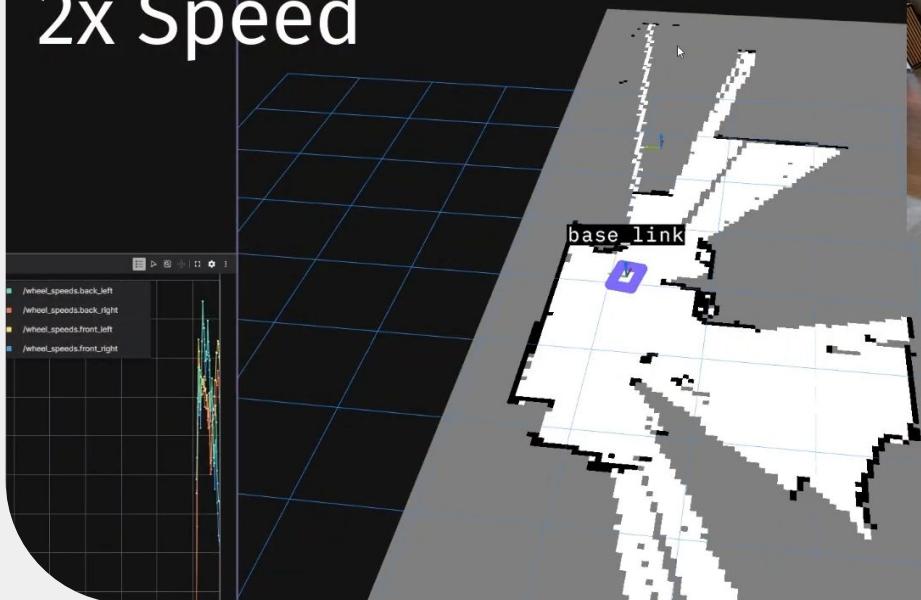


RTAB Map SLAM



Just1: Autonomous Mecanum Wheel Robot

Autonomous Mode 2x Speed



Just1: Next steps ideas

- Open CAD
- Open BoM
- Open Code
- Navigate manually or autonomously
- Omnidirectional movement



- Docker image
- Add wheel encoders
- Camera + Lidar for SLAM
- Sim replica in Isaac Sim



NOW

**ONE
DAY?**