

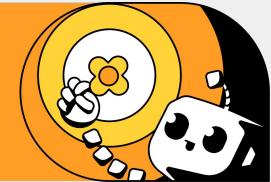
# Just1: An Open-Source Autonomous Mecanum Wheel Robot

Nicolas Rodriguez

# Breaking news: Open Source is cool



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

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Compare

TURTLEBOT3 Waffle Pi SALE



Raspberry Pi® 4 (2GB)

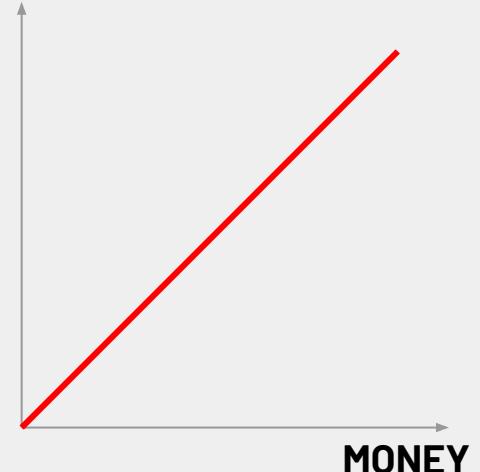
TURTLEBOT 3 WAFFLE PI RPI4 2G...

★★★★★ \$1,825.34 \$1,642.80

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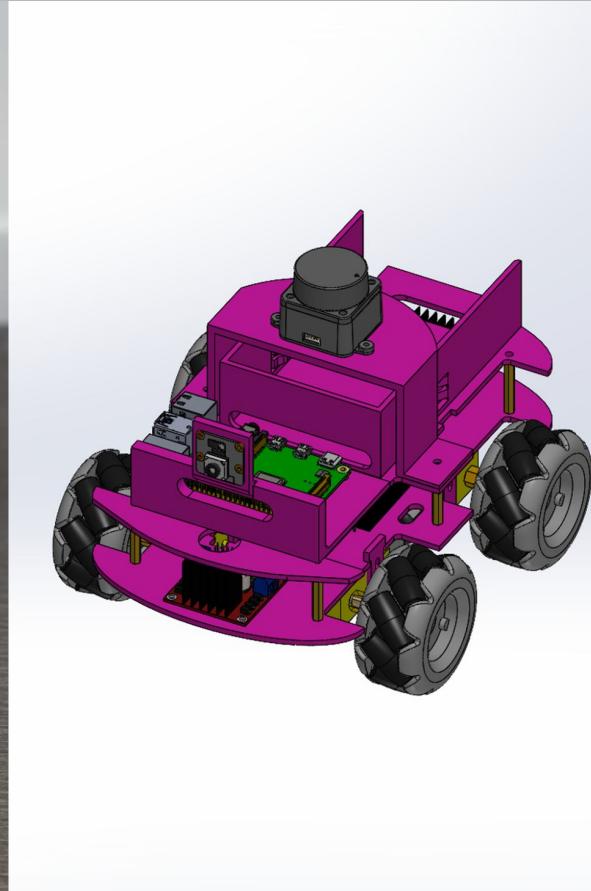
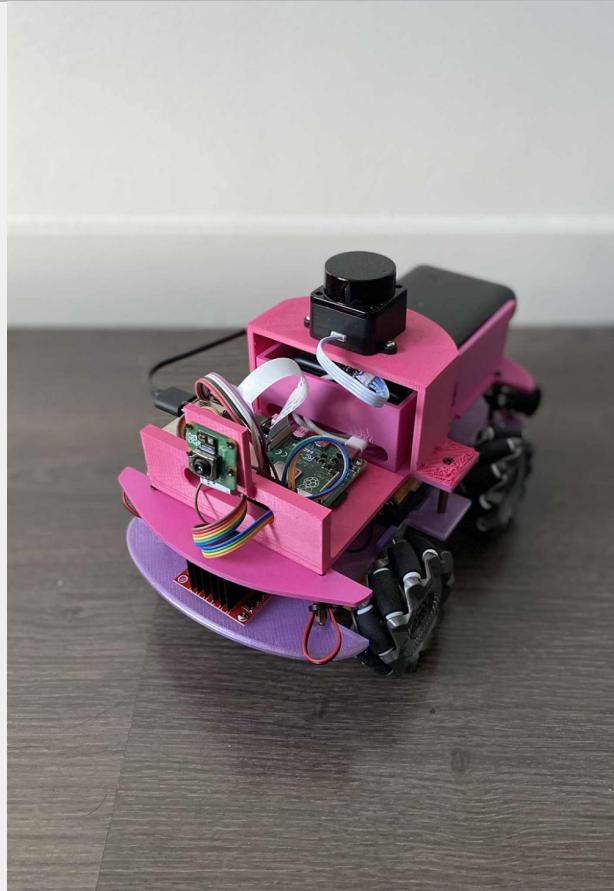
Compare

MONEY



# Just1: Autonomous Mecanum Wheel Robot

• 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
<b>Total</b>	<b>\$250</b>

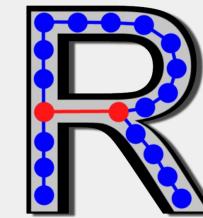


# Just1: Autonomous Mecanum Wheel Robot

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N A V 2

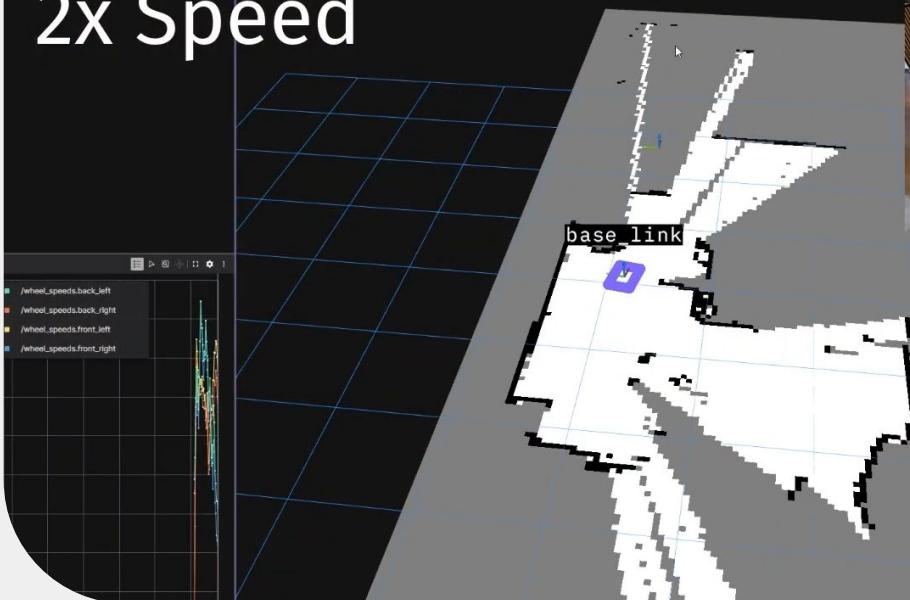


RTAB Map SLAM

# Just1: Autonomous Mecanum Wheel Robot

6

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?**