

Network and  
Telecommunications Engineering

# Gesture Controlled Vehicle Incorporating Advanced Functions

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## **Students:**

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Racer : Innovation  
and Movement

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- 2.- Metodología
- 3.- Software
- 4.- Hardware
- 5.- Planificación

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- 7.-Demostración
- 8.-Conclusión.
- 9.-Trabajo a futuro.



# Introducción



Figura 1. Realización  
del Puente H desde  
cero.

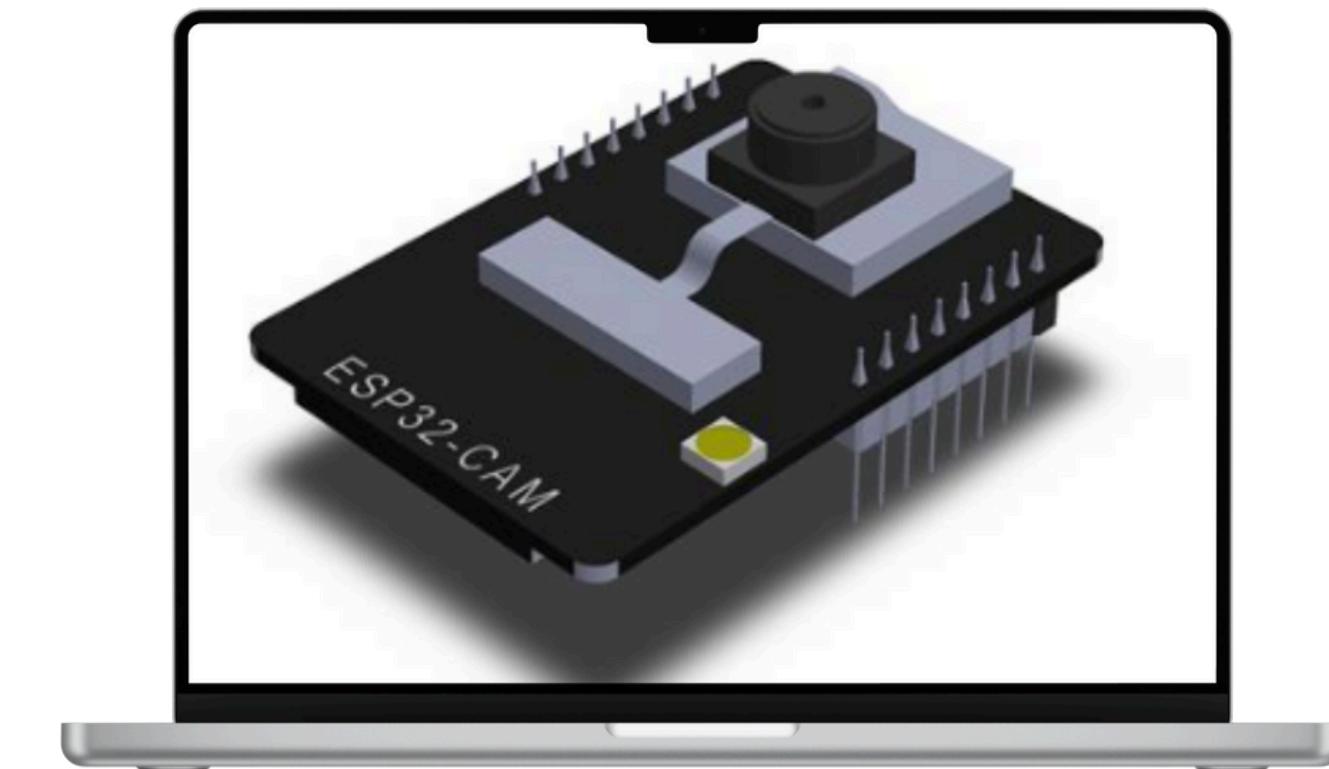


Figura 2. Prueba de implementación de  
detección de objetos, con ESP32-CAM.



# Software



Figura 3.. Software de diseño  
de circuitos impresos.



Figura 4. Software de programación  
que permite escribir, depurar, editar y  
grabar programas.

# Hardware



Figura 5 . Sensor Ultrasónico HC-SR04.



Figura 8. Motores Arduino.

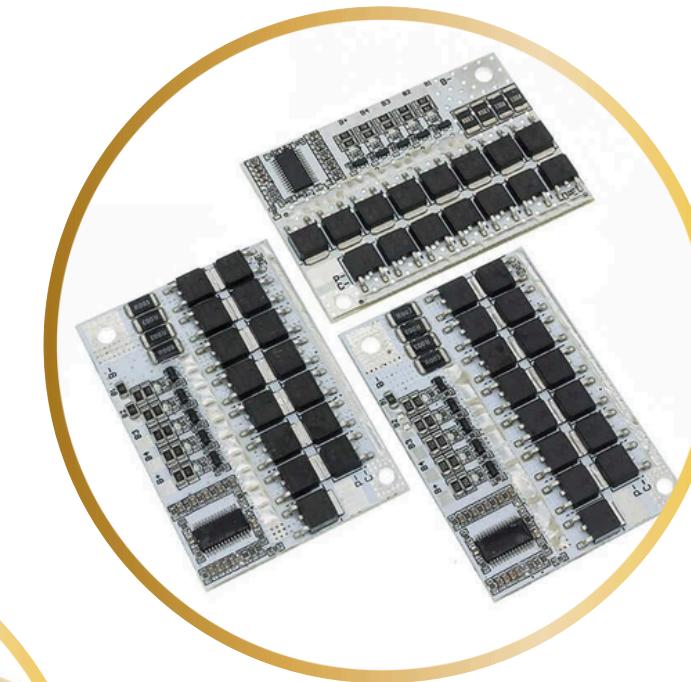


Figura 6 . Placa de Circuito de Protección de batería BMS.



Figura 9 . Baterías de Litio.

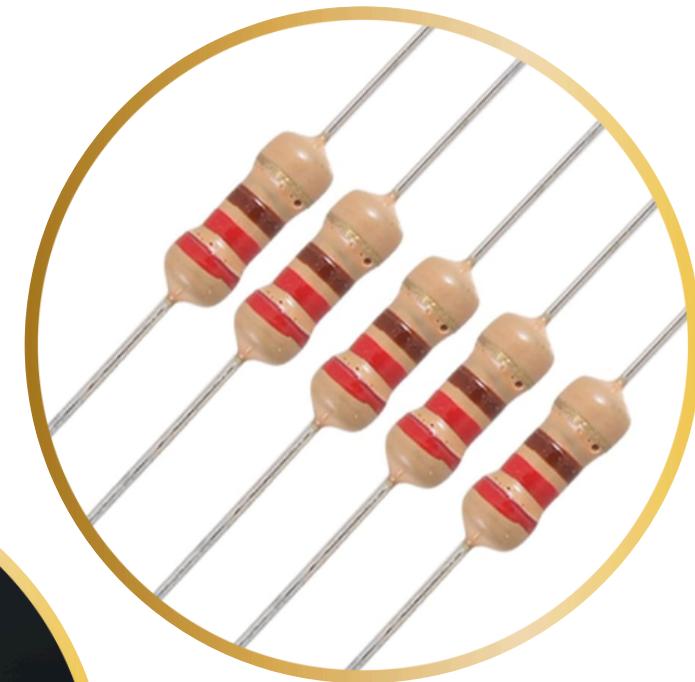


Figura 7 . Resistencias.

# Hardware

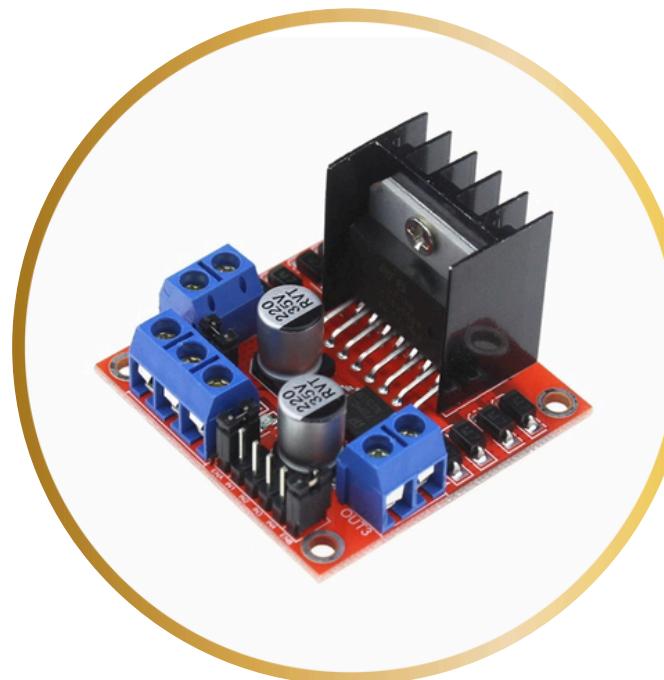


Figura 10 . Puente H  
L298N.

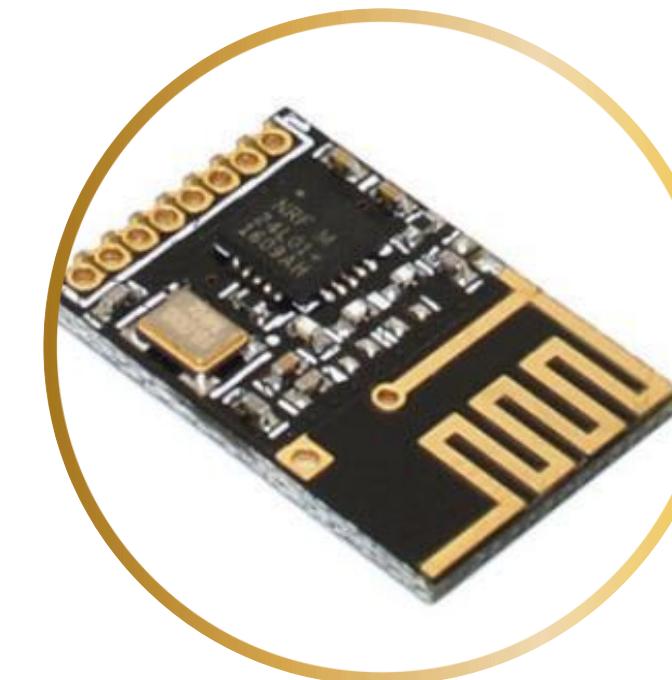


Figura 12. Modulo de  
Radiofrecuencia  
NRFL2401.



Figura 11 . Diodos Led.

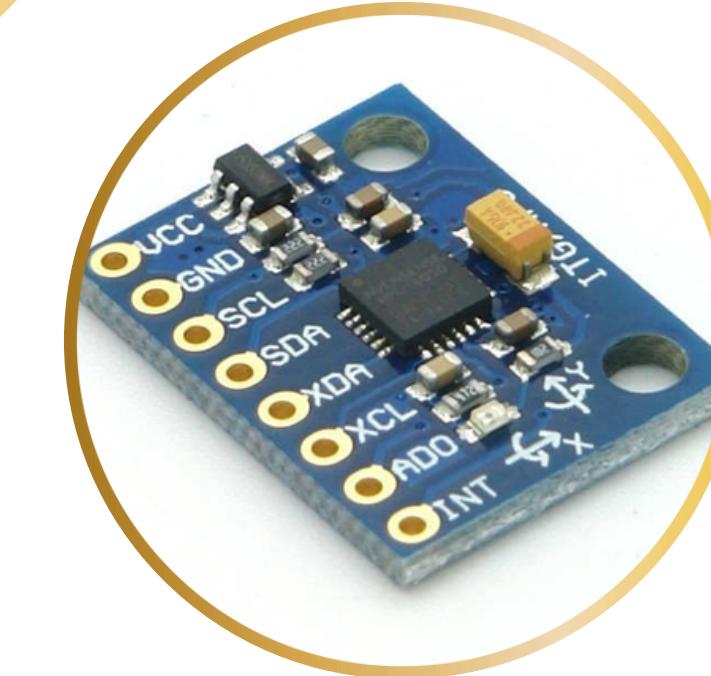


Figura 13 . Giroscopio  
MPU6050.

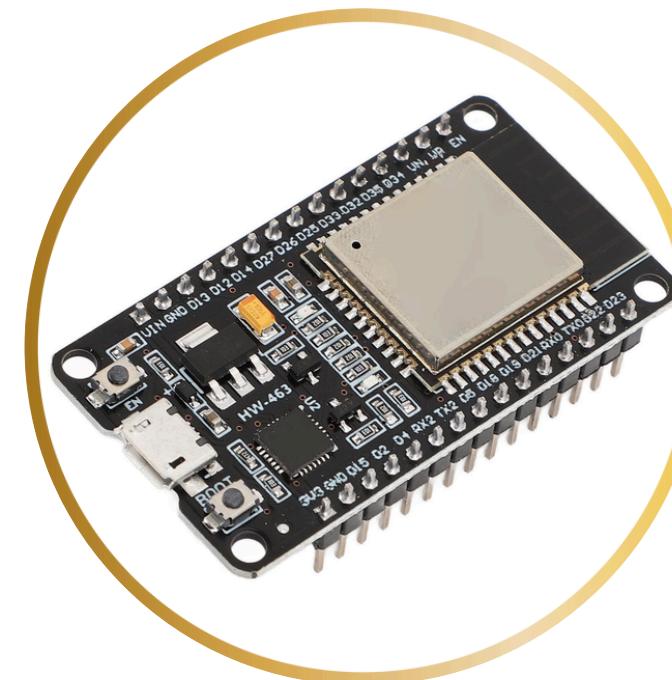
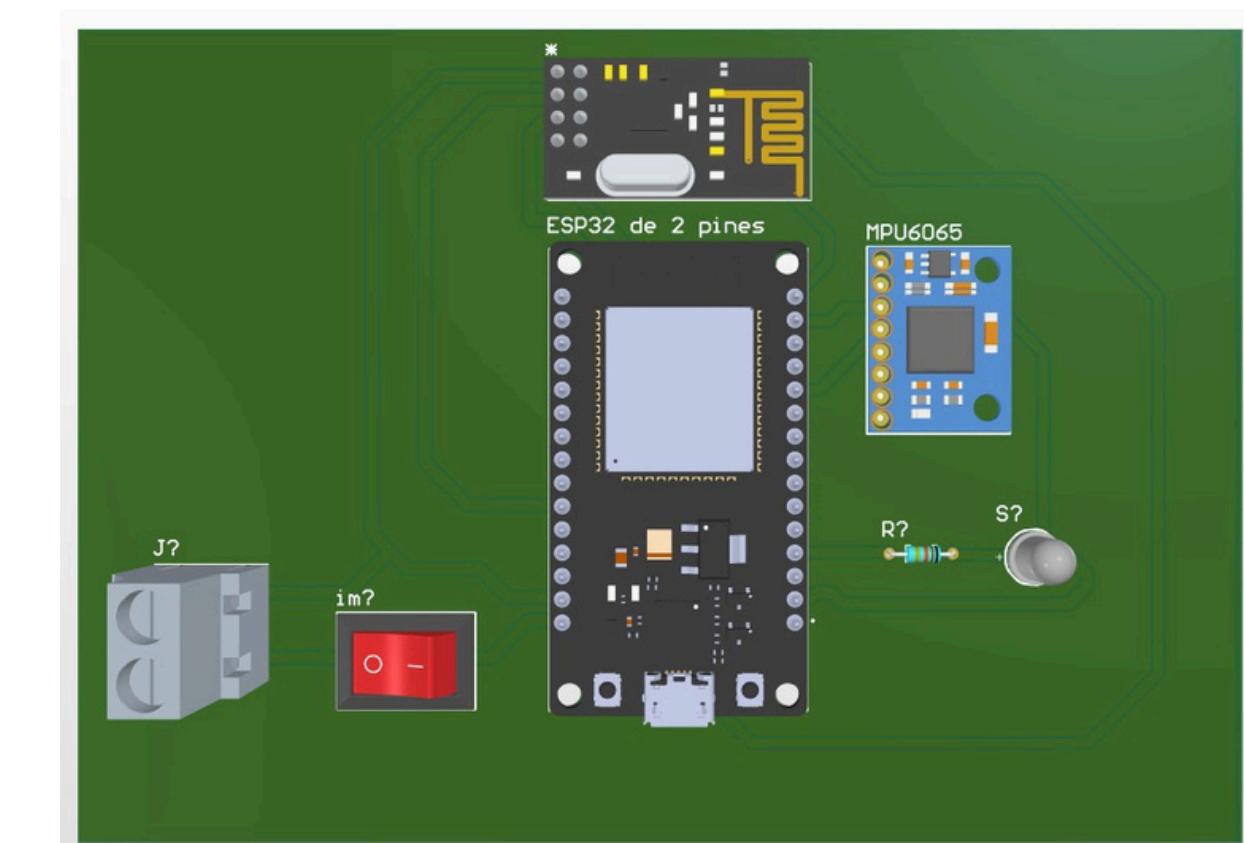
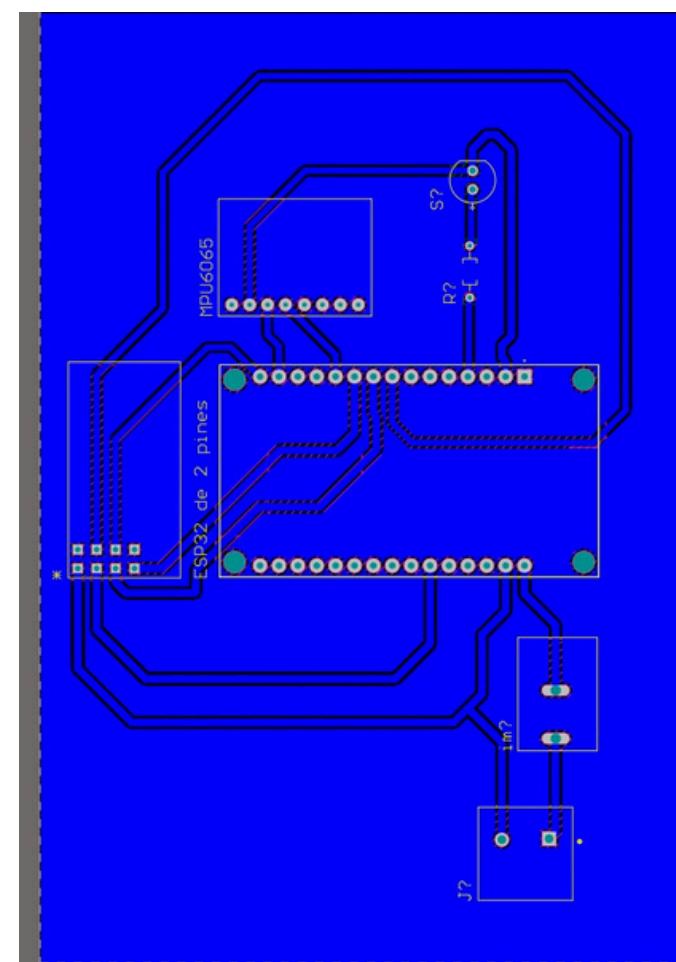
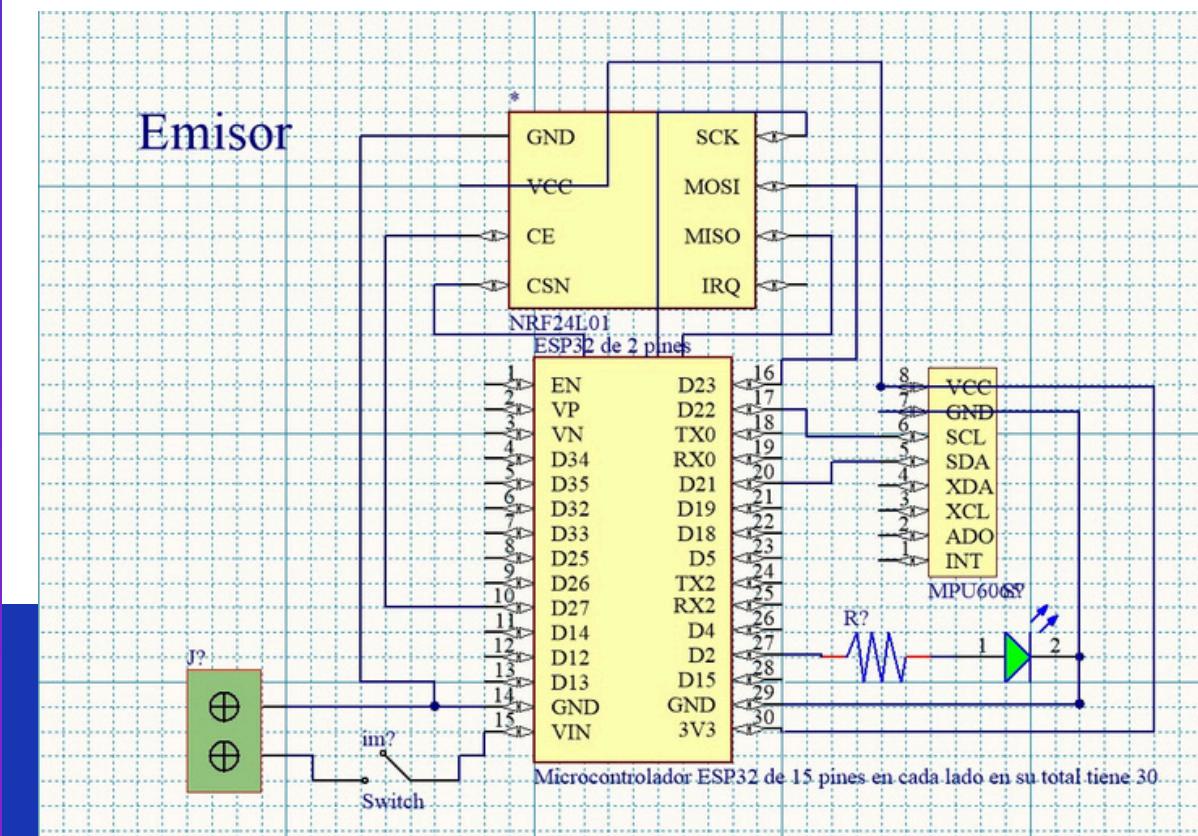


Figura 14. Microcontrolador  
SP32.

# Planificación

Elaboración en Altium Designer de la PCB del emisor



# Planificación

## Elaboración en Altium Designer de la PCB del Receptor

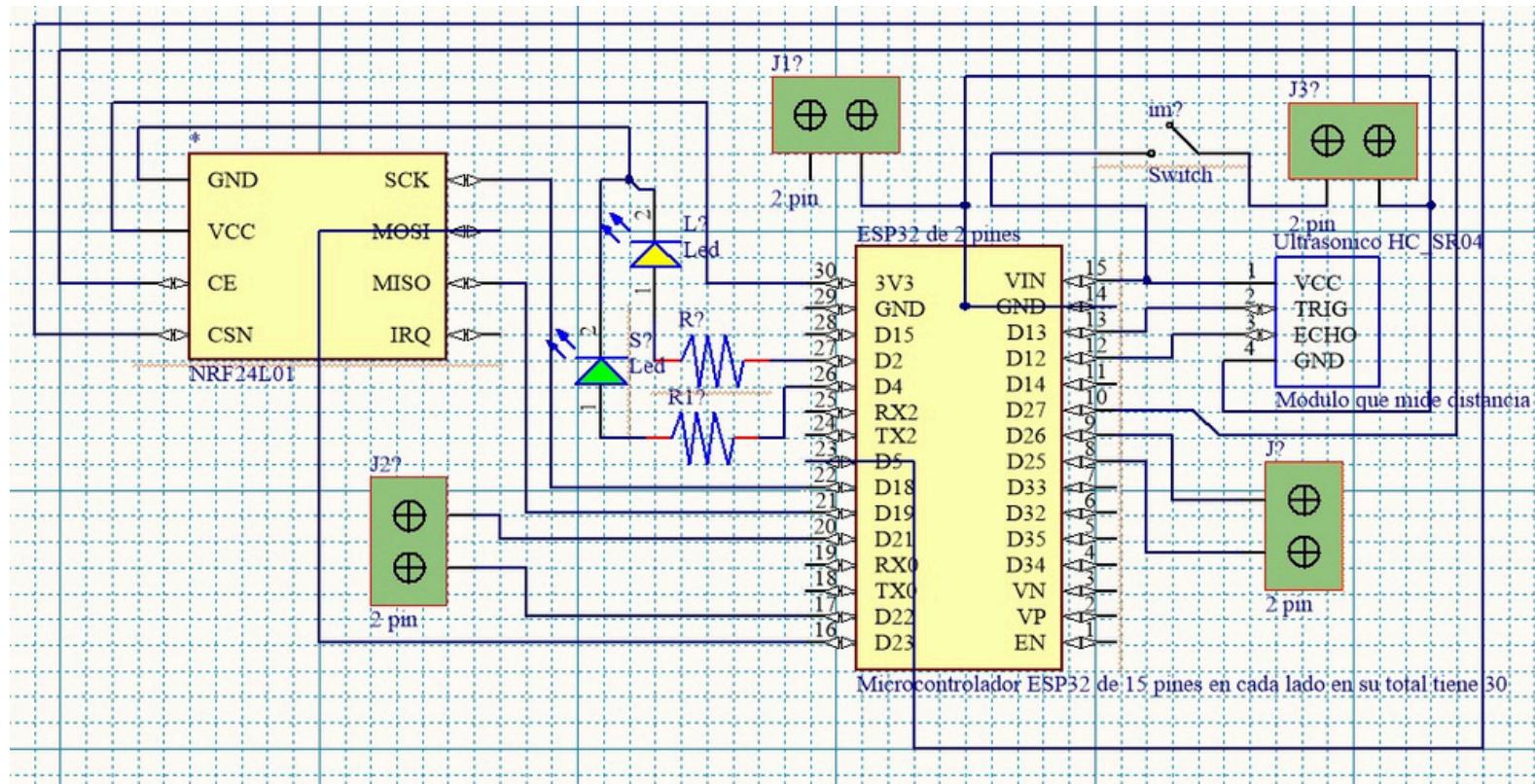


Figura 18. Diagrama Esquemático del Receptor.

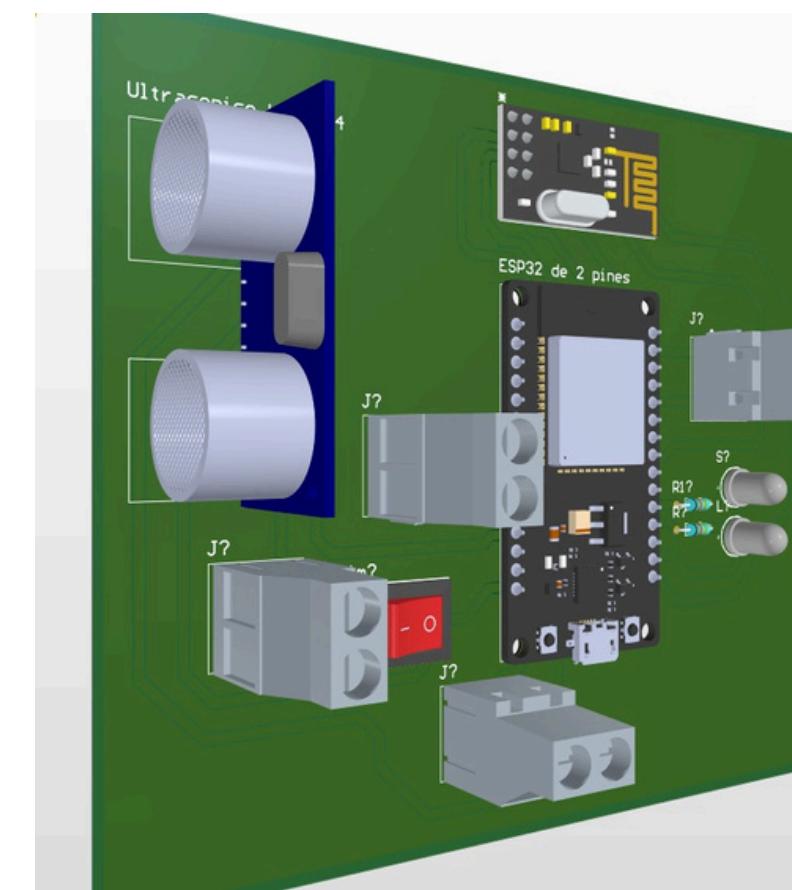


Figura 19 .  
Representación en 3D.

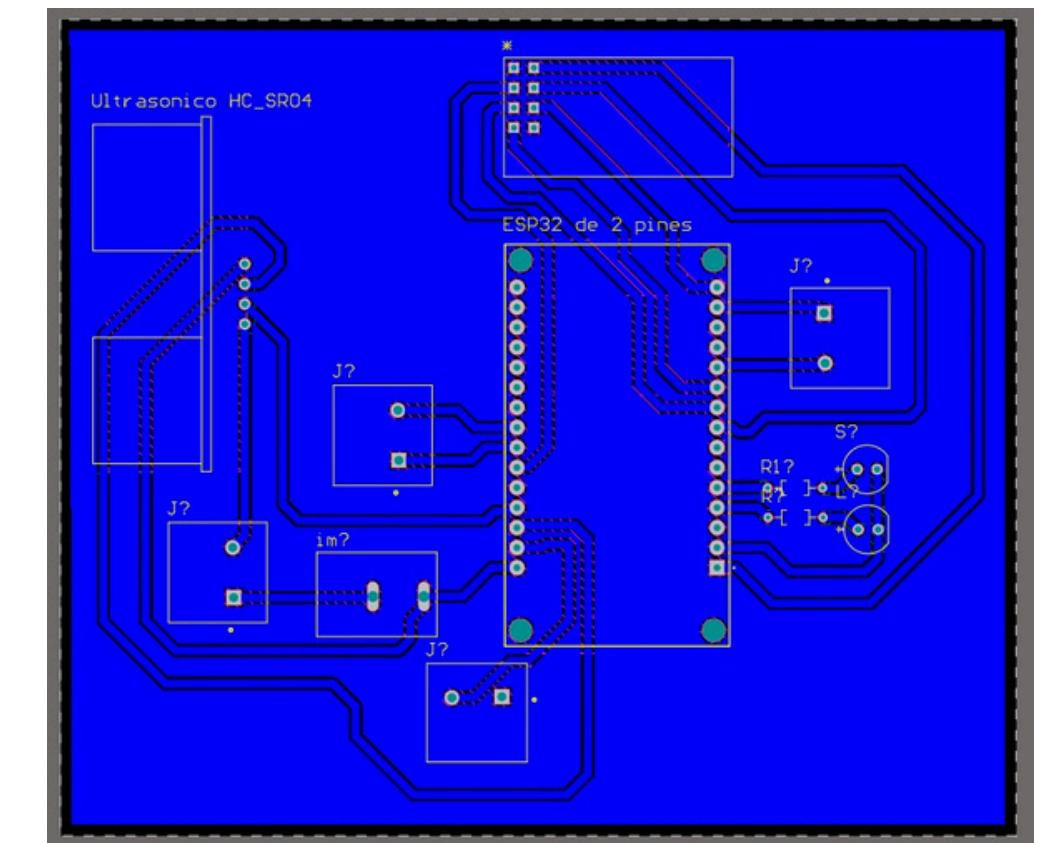


Figura 20. Diseño de la PCB.

# Planificación

Elaboración en Altium Designer de la PCB del Puente H.

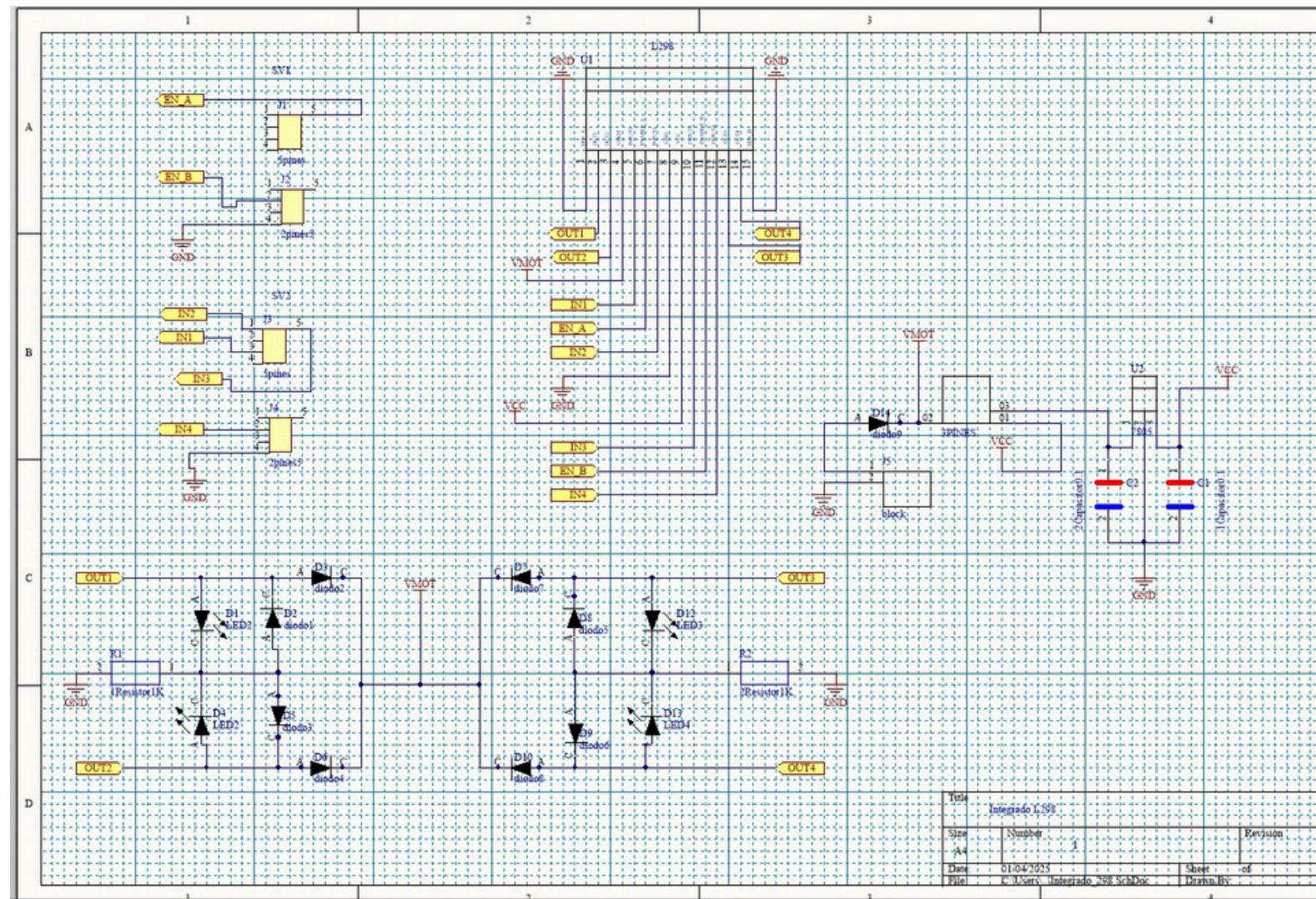


Figura 21. Diagrama Esquemático del Puente H.

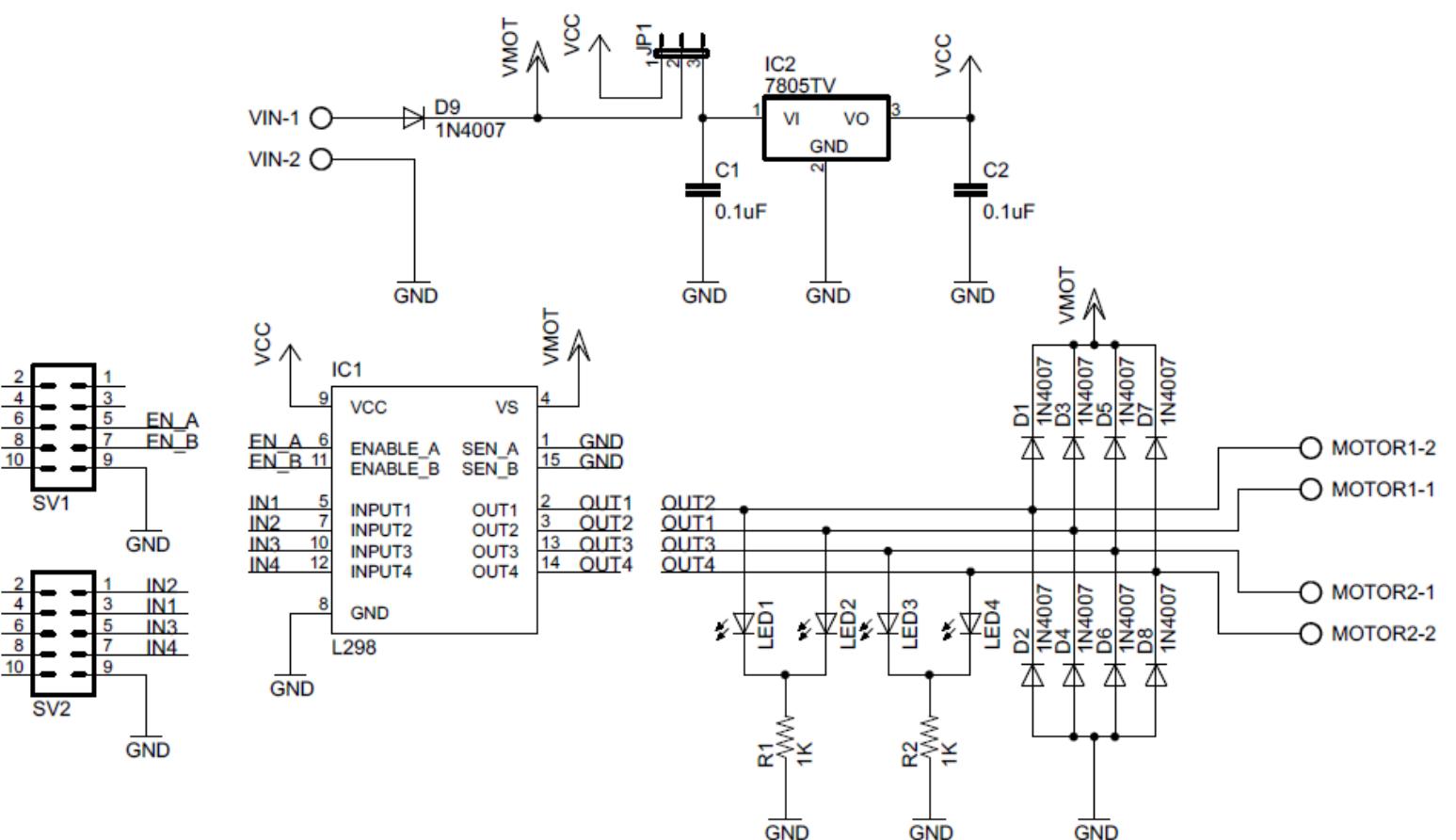


Figura 22 . Diagrama Esquemático del Puente H a seguir.

# Planificación

Elaboración en Altium de la PCB a doble cara  
de vistas y componentes del Puente H.

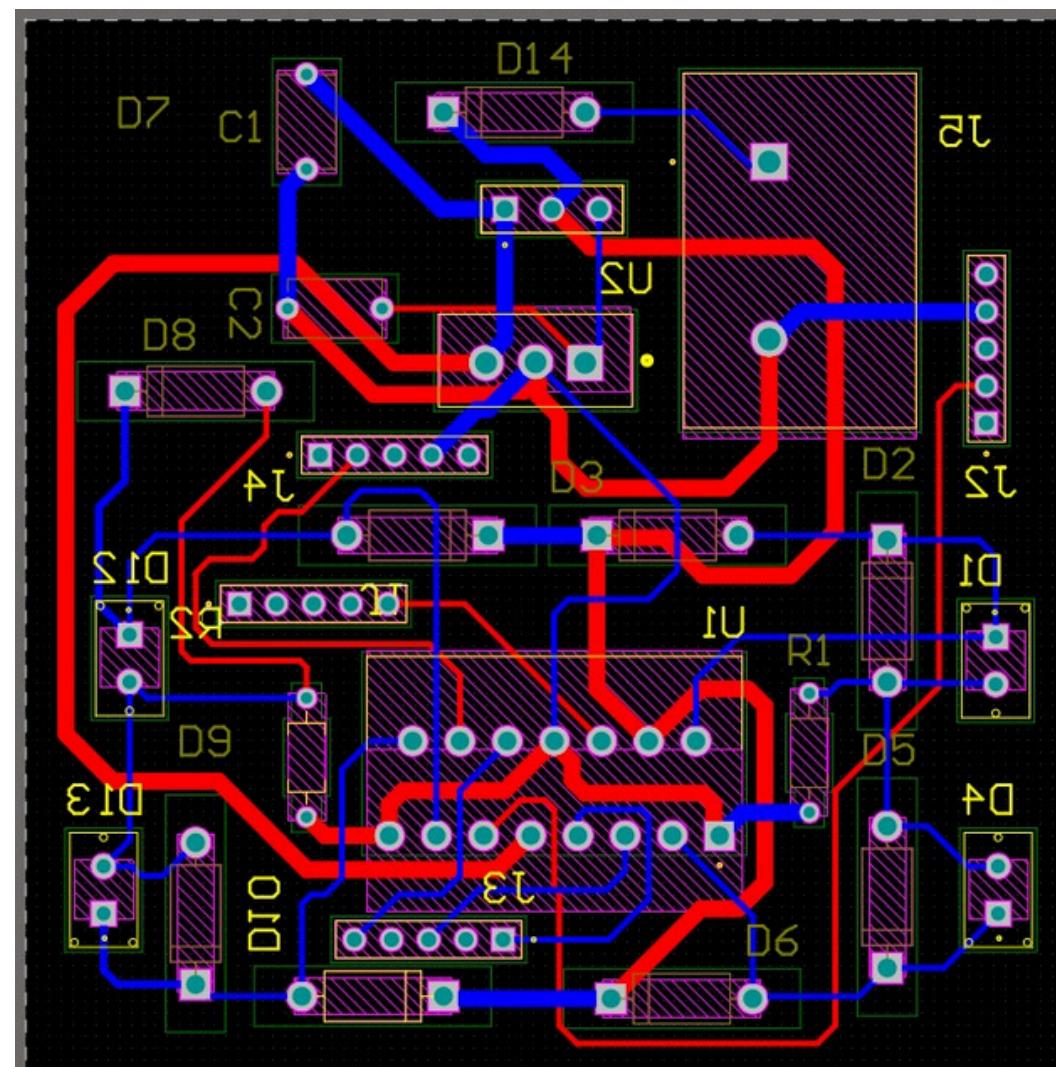


Figura 23 . Diseño de  
PCB en 2D.

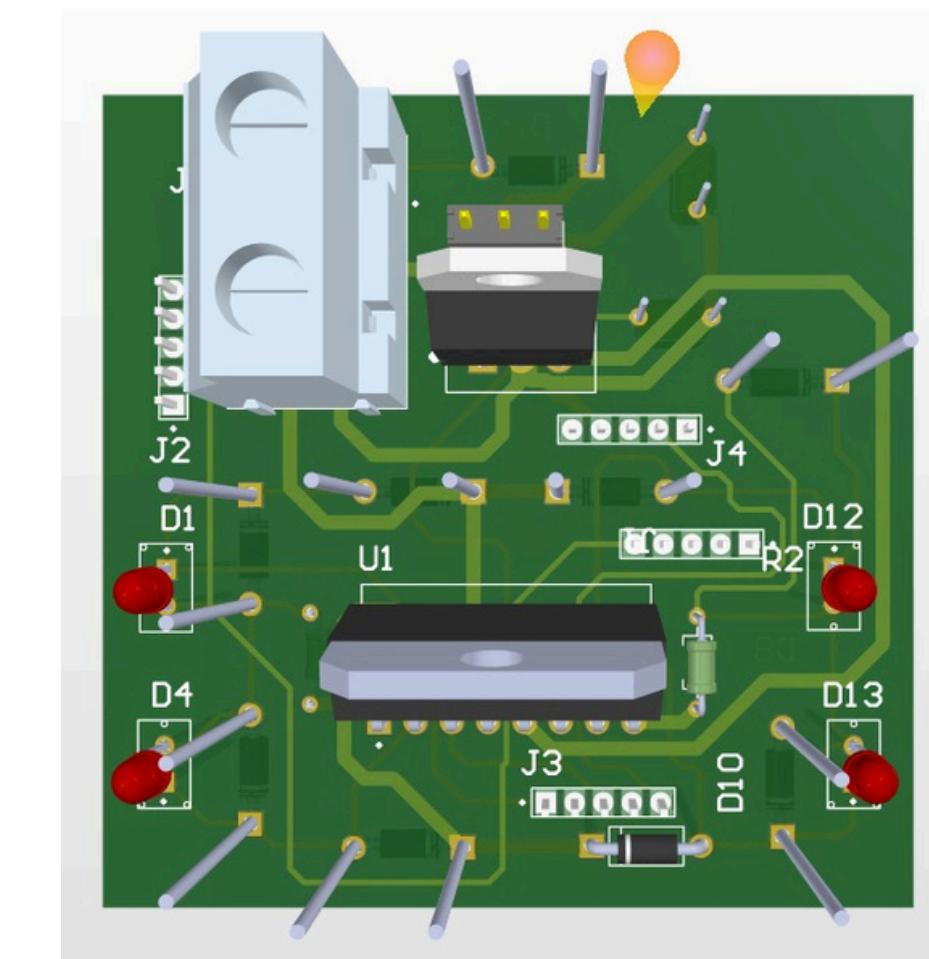
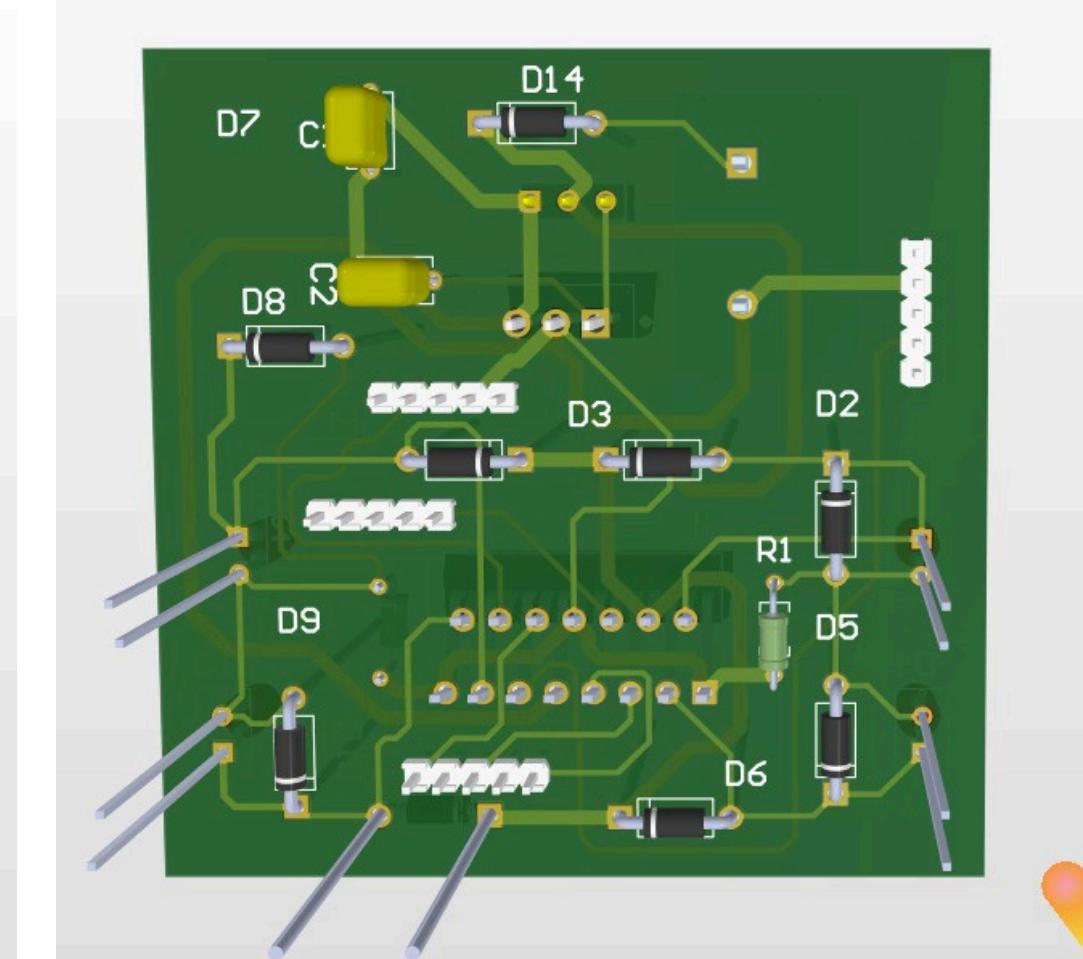
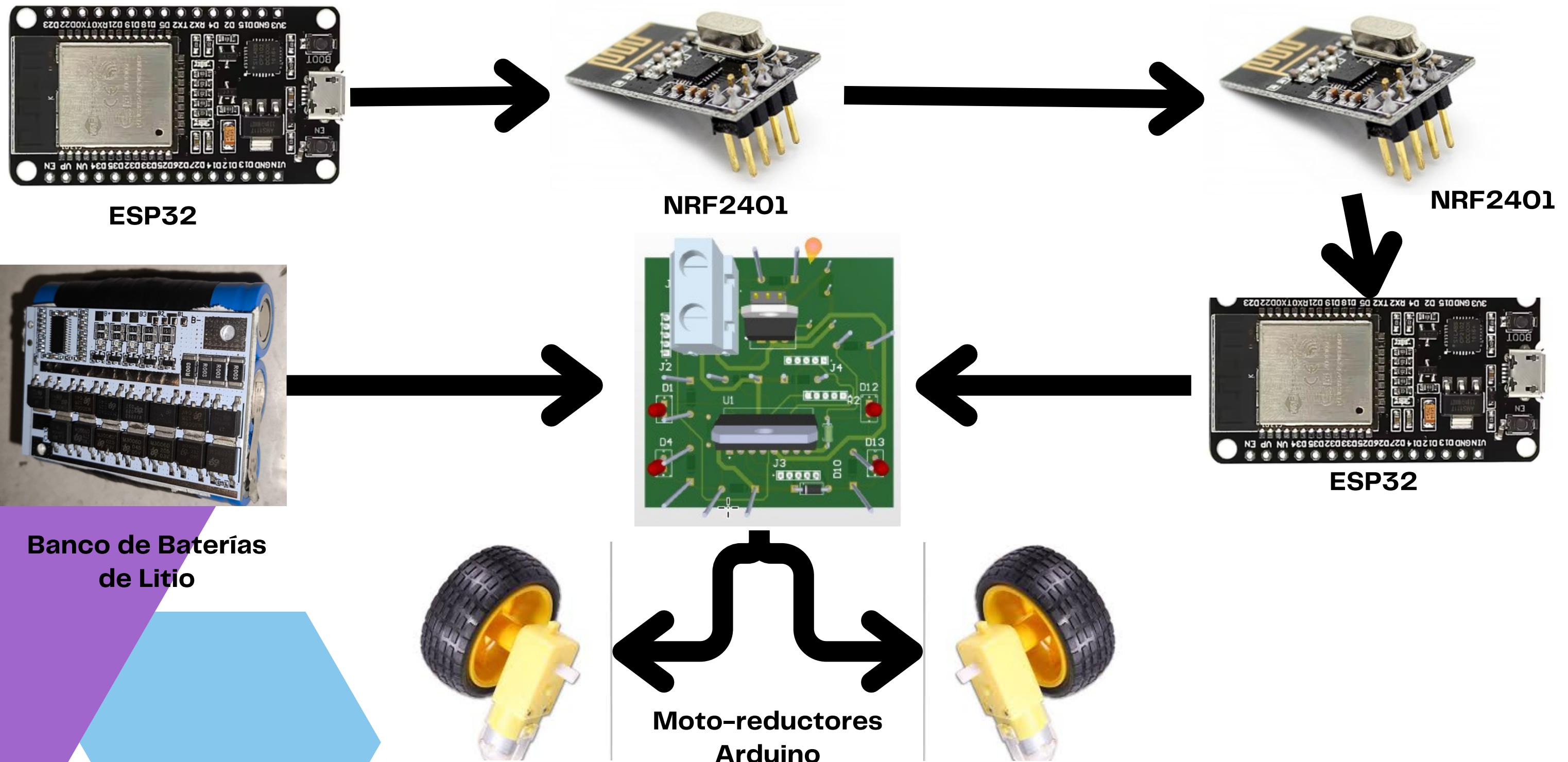


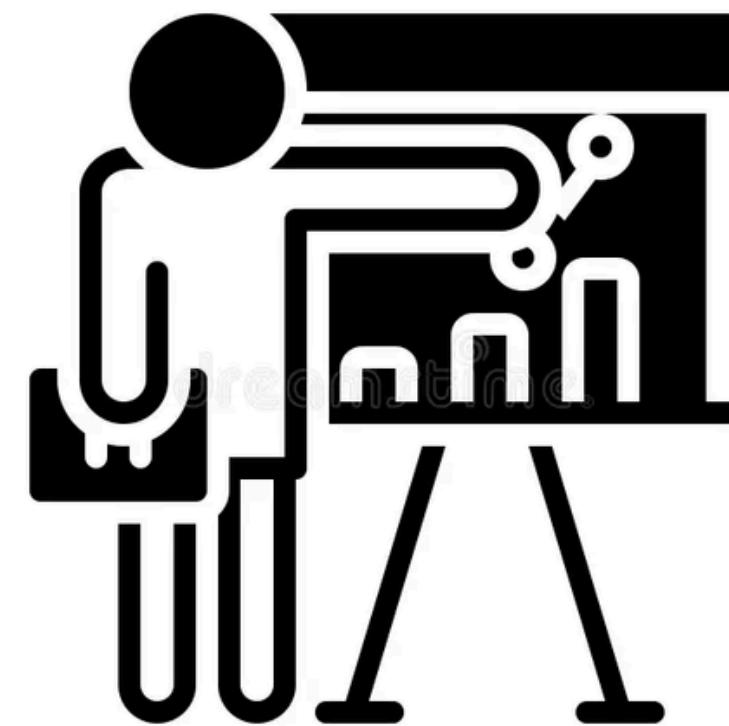
Figura 24 .  
Representacion de  
PCB en 3D.



# Metodología



# Demostración del proyecto



# Conclusión

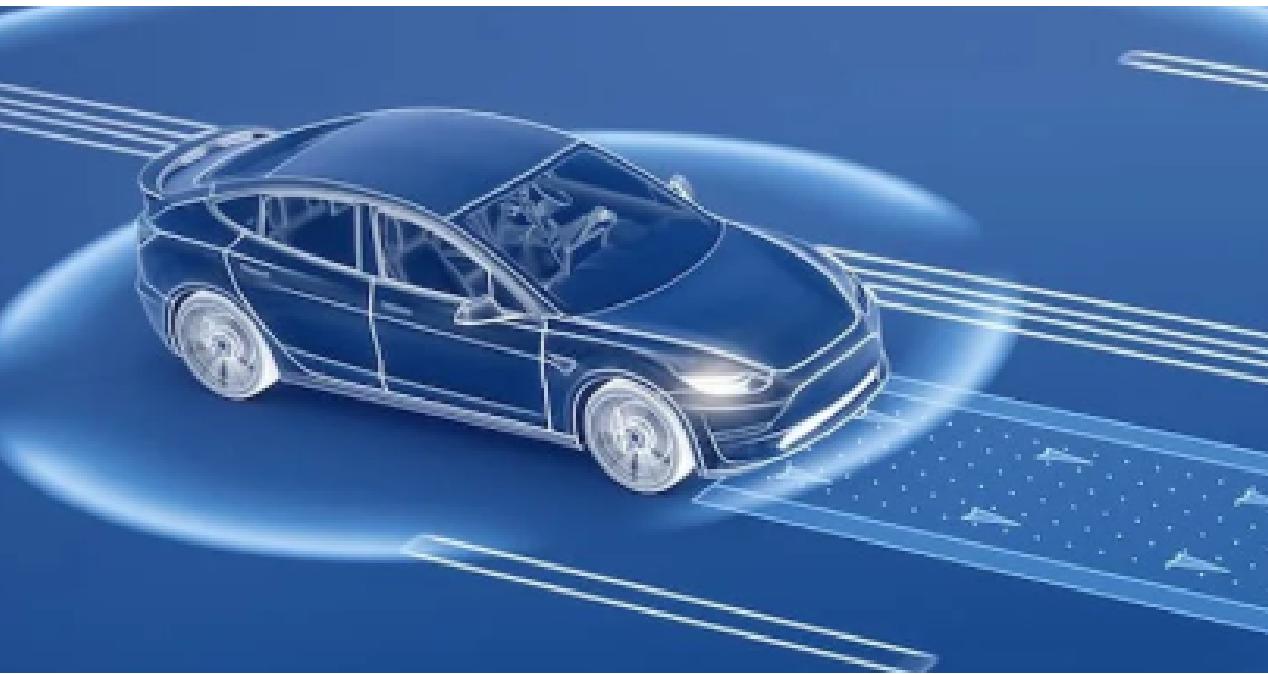


Figura 25. Vehiculo  
automatizado.

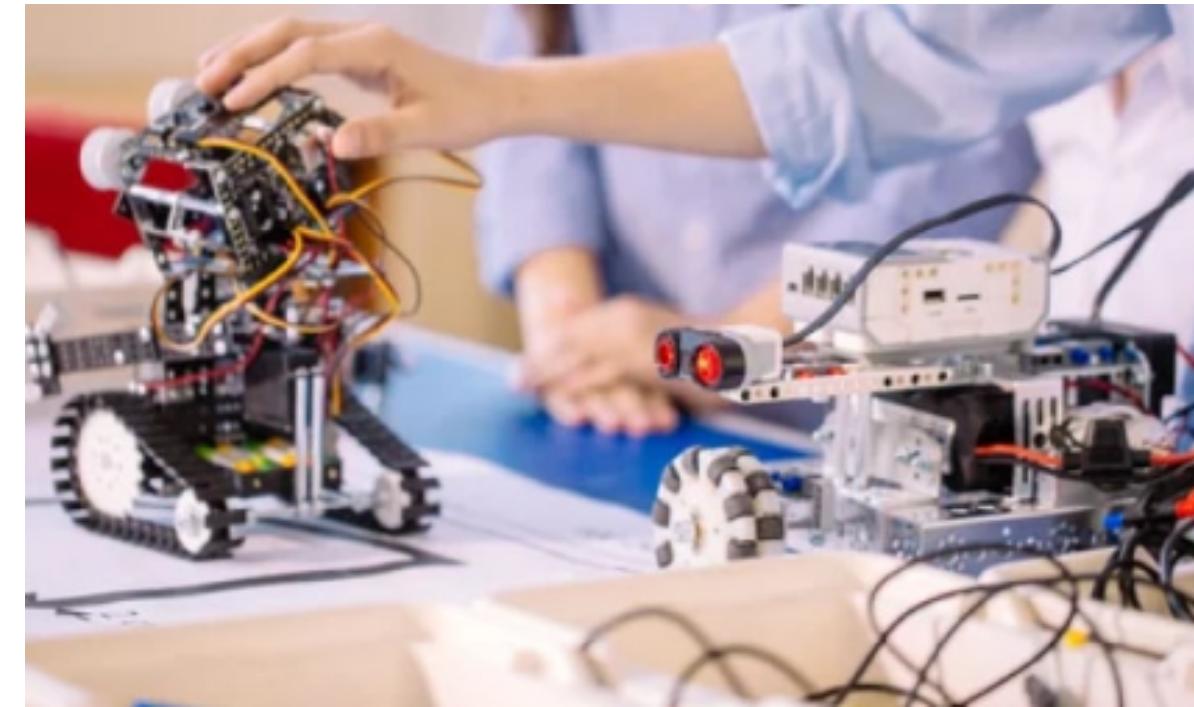


Figura 26. Robotica.

# Trabajo a futuro

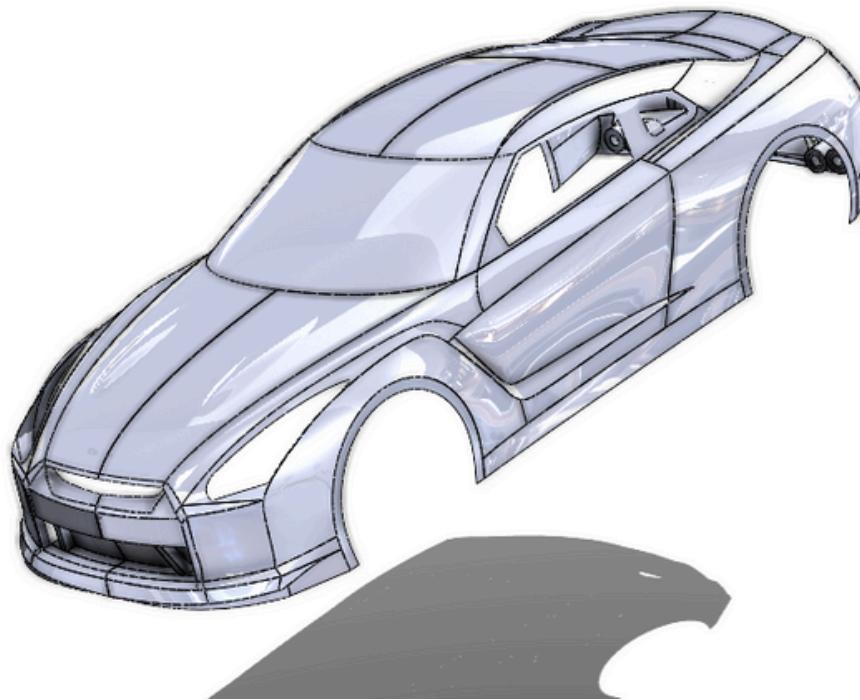


Figura 25 . Elaboración de Carrocería en SolidWorks.



Figura 25 .  
Implementacion de  
Visio Artificial con  
MicroPython.



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# Gesture Controlled Vehicle Incorporating Advanced Functions

Sección de Preguntas

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