

# RC Car Code on the Pico W - Explained for Kids

## What This Code Does

This code runs on the tiny computer (called a Pico W) that lives inside your RC car. It listens for messages from your laptop over Wi-Fi and makes the car go forward, stop, or turn!

## How It Connects to Wi-Fi

At the start of the program, the Pico reads two files:

- config.json: which pins control the motor and the steering
- networkinfo.json: the name and password for your Wi-Fi

It then connects to Wi-Fi. While it's trying to connect, it blinks its little LED light. Once it connects, the light stays on so you know it's ready.

## What Is a Class?

In Python, a class is like a blueprint. This code defines a class called RCCar. That blueprint tells the Pico how to control the car: how to drive forward, turn, or stop. We make one real car using that blueprint by writing: `car = RCCar(esc, servo)`.

## What is PWM?

PWM stands for Pulse Width Modulation. It means turning power on and off very quickly in pulses. The motor and the steering servo need different length pulses to know what to do. The car sends these using the PWMOutput class.

## What is a Socket?

A socket is like a phone line. The Pico sets up a socket and listens on it for incoming messages. When your computer sends a message, the Pico 'picks up the phone' and checks what you said. If you said 'forward', the car moves forward!

## How Commands Work

The Pico listens for messages like this:

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GET /api?cmd=forward&turn=left

It looks at the 'cmd' and 'turn' parts and figures out what to do.

- cmd=forward -> drive forward
- turn=left -> steer left

This is called an HTTP GET request. It's how computers ask other computers for something on the web.