**list of important and reliable resources:**

# 🔧 ESP32-CAM Live Streaming Resources:

1. 📘 **ESP32-CAM Video Streaming Web Server Tutorial**  
   ➤ https://randomnerdtutorials.com/esp32-cam-video-streaming-web-server/  
   *Step-by-step guide to stream video from ESP32-CAM over Wi-Fi using Arduino IDE.*
2. 📄 **ESP32-CAM Datasheet**  
   ➤ https://www.electrodragon.com/w/ESP32-CAM  
   *Technical specifications, pinouts, and camera capabilities.*
3. 💡 **ESP32-CAM Camera Web Server Example (GitHub)**  
   ➤ <https://github.com/espressif/arduino-esp32/tree/master/libraries/ESP32/examples/Camera/CameraWebServer>  
   *Official example code from Espressif's Arduino core.*

# 📏 Ultrasonic Sensor (HC-SR04) Resources:

1. 🧠 **Ultrasonic Sensor HC-SR04 Guide**  
   ➤ https://components101.com/sensors/hc-sr04-ultrasonic-sensor  
   *Basic working, interfacing, and timing diagram.*
2. 🔁 **Obstacle Detection with Arduino and Ultrasonic**  
   ➤ https://www.electronicwings.com/nodemcu/hc-sr04-ultrasonic-sensor-interfacing-with-nodemcu  
   *Useful if you decide to switch to NodeMCU/ESP-based distance sensing.*

# 📱 Smartphone Integration / App Streaming:

1. 📲 **How to View ESP32-CAM Stream on Phone**  
   ➤ Simply open the ESP32-CAM local IP (like http://192.168.1.x) in your mobile browser.  
   *You can also build an Android app with MIT App Inventor that opens this link via WebViewer.*
2. 📱 **MIT App Inventor - WebView App Tutorial**  
   ➤ https://appinventor.mit.edu/explore/ai2/webviewer  
   *Use this to make a simple app for viewing the live stream.*

# 🎥 **YouTube Tutorials:**

1. [How to setup and use ESP32 Cam with Micro USB WiFi Camera](https://www.youtube.com/watch?v=RCtVxZnjPmY&ab_channel=Robojax)*Hands-on example of building a live camera surveillance project using ESP32-CAM.*
2. 🎬 [Blind spot sensor Final prototype](https://www.youtube.com/watch?v=73B7RpMPzmE&ab_channel=SumanNeupane)  
   *Visual guide to interfacing ultrasonic sensor with Arduino for object detection.*

# **💬 Optional Advanced Resources:**

1. 🌐 **IFTTT Webhooks (for future expansion with alerts)**  
   ➤ https://ifttt.com/maker\_webhooks  
   *To send notifications, emails, or SMS when obstacle is detected.*
2. 🔐 **OTA and Web Authentication for ESP32-CAM**  
   ➤ <https://github.com/espressif/arduino-esp32/issues/2537>  
   *Enable secure access to your ESP32-CAM stream.*