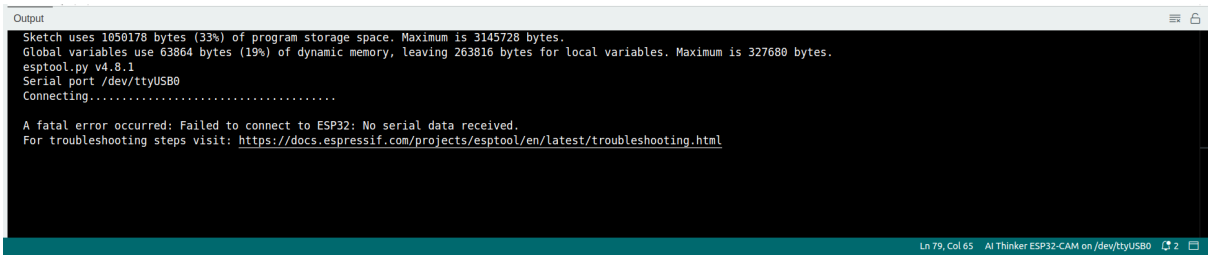
ESP32-CAM Error Troubleshooting Guide

This document outlines common errors encountered when working with the ESP32-CAM and provides step-by-step solutions to help resolve them quickly.

⚠️ Case 1: Stuck at “Connecting…” or Fatal Serial Error

Error Message:

A fatal error occurred: Failed to connect to ESP32: No serial data received



Cause:

The ESP32-CAM has not entered programming mode correctly or has an issue with the serial connection.

1. **Check Connections:**
    - Ensure the USB-to-Serial programmer is wired correctly:
        - `TX → RX`, `RX → TX`
        - `GND → GND`
        - `5V or 3.3V →` VCC (based on your module’s requirement)
2. **Manually Put ESP32-CAM into Programming Mode:**
    - Press and **hold** the **IO0 (PROGRAMMER)** and ESP32 **RST (RESET)** buttons.
    - **Release the RST button first**, then release the IO0 button.
    - This sequence ensures the ESP32-CAM enters flashing mode.
3. **Retry the Upload:**
   After entering flashing mode, attempt to upload the code again via the IDE.
4. **Additional Checks if Error Persists:**
    - Verify that the **correct COM port** is selected.
    - Make sure no other software is using the serial port.
    - Try using a different **USB cable** or **USB port**.

⚠️ Case 2: Camera Initialisation Failure – JPEG Format Not Supported

Error Message:

E (470) camera: JPEG format is not supported on this sensor. Camera init failed with error 0x106

```
17:54:42.768 -> .........
17:54:47.277 -> WiFi connected
17:54:47.277 -> Camera Ready2! Use 'http://192.168.0.26' to connect
17:58:41.930 -> ets Jun  8 2016 00:22:57
17:58:41.930 ->
17:58:41.930 -> rst:0x1 (POWERON_RESET),boot:0x13 (SPI_FAST_FLASH_BOOT)
17:58:41.930 -> configsip: 0, SPIWP:0xee
17:58:41.930 -> clk_drv:0x00,q_drv:0x00,d_drv:0x00,cs0_drv:0x00,hd_drv:0x00,wp_drv:0x00
17:58:41.930 -> mode:DIO, clock div:2
17:58:41.930 -> load:0x3fff0030,len:4888
17:58:41.930 -> load:0x40078000,len:16508
17:58:41.980 -> ho 0 tail 12 room 4
17:58:41.980 -> load:0x40080400,len:4
17:58:41.980 -> load:0x40080404,len:3476
17:58:41.980 -> entry 0x400805b4
17:58:42.767 ->
17:58:43.217 -> E (470) camera: JPEG format is not supported on this sensor
17:58:43.217 -> Camera init failed with error 0x106
```

Cause:

The default pixel format in the code is set to **JPEG**, which is not supported by all camera modules (especially OV2640 clones or other variants).

Solution:

Modify the camera configuration in your code (Example program: ESP32 Camera)

```
// Original (for streaming - may cause error on some cameras)
config.pixel_format = PIXFORMAT_JPEG;

// Updated (for compatibility with more modules)
config.pixel_format = PIXFORMAT_RGB565; // Suitable for face detection/recognition
```

```
71  // config.pixel_format = PIXFORMAT_JPEG;  // for streaming
72  config.pixel_format = PIXFORMAT_RGB565; // for face detection/recognition
```

Recommendation:

- Use PIXFORMAT_RGB565 for better compatibility across different ESP32-CAM modules.
- Only use PIXFORMAT_JPEG if you're certain your sensor supports it and you're implementing streaming functionality.