

WEB-BASED REMOTE CONTROLLED
ROBOT CAR

MEET US



MOHAMED MILOUDI

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MOHAMED AMINE BENCHAA



MOHAMED CHAKIB OUZANE



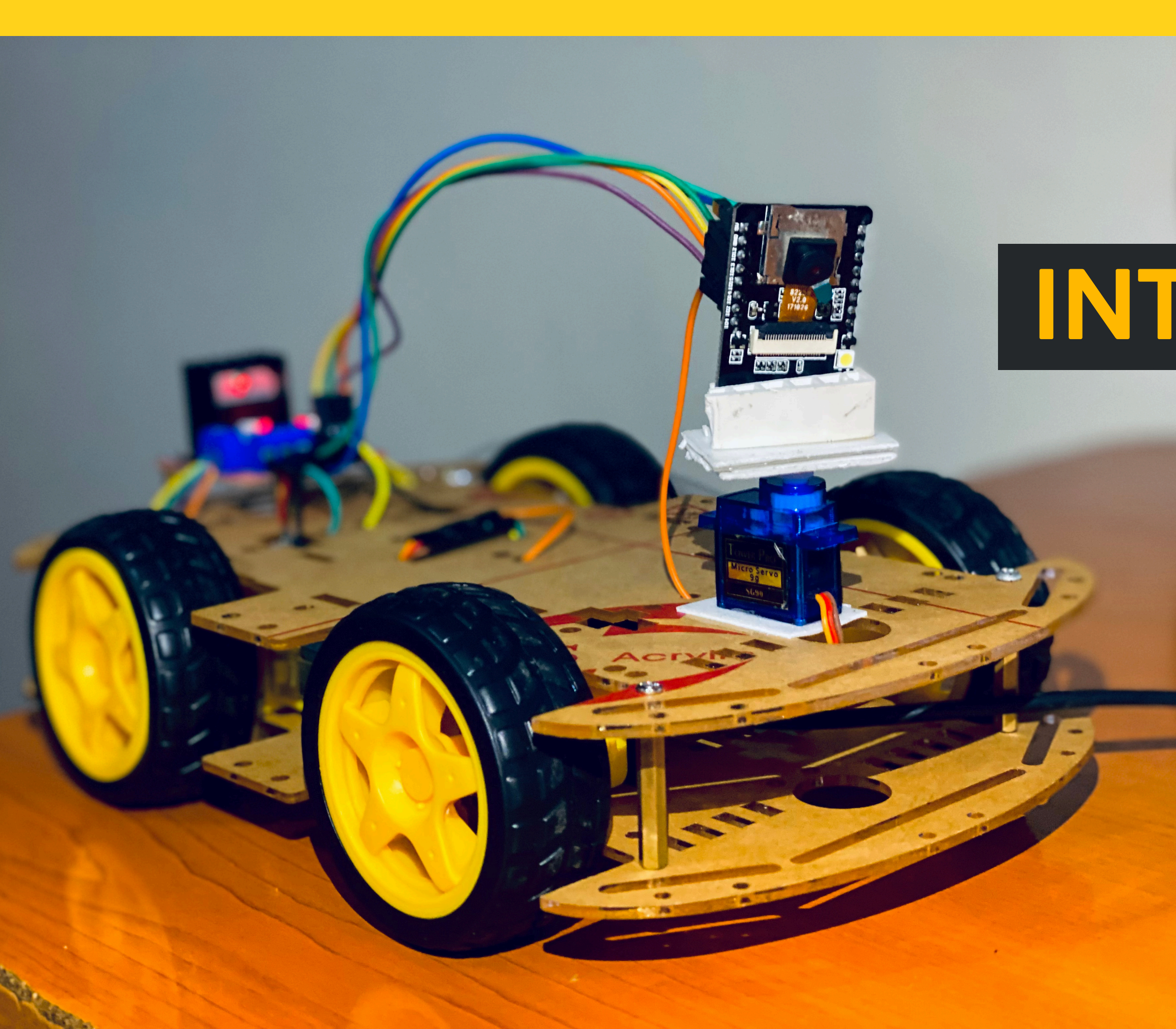
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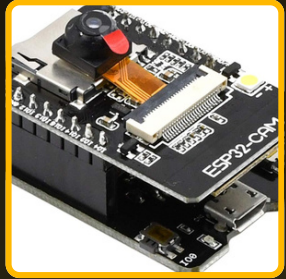
4. OBJECT DETECTION



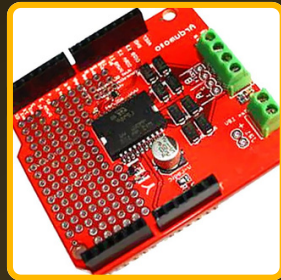
INTRODUCTION

PROJECT COMPONENTS

HARDWARE



ESP32-CAM



ARDUINO MOTOR SHIELD

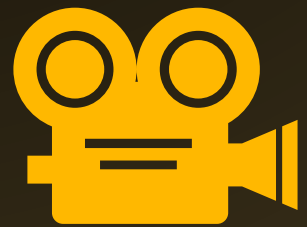


POWER SUPPLY (POWER BANK)



CHASSIS ,MOTORS & SERVO MOTOR

ESP32-CAM



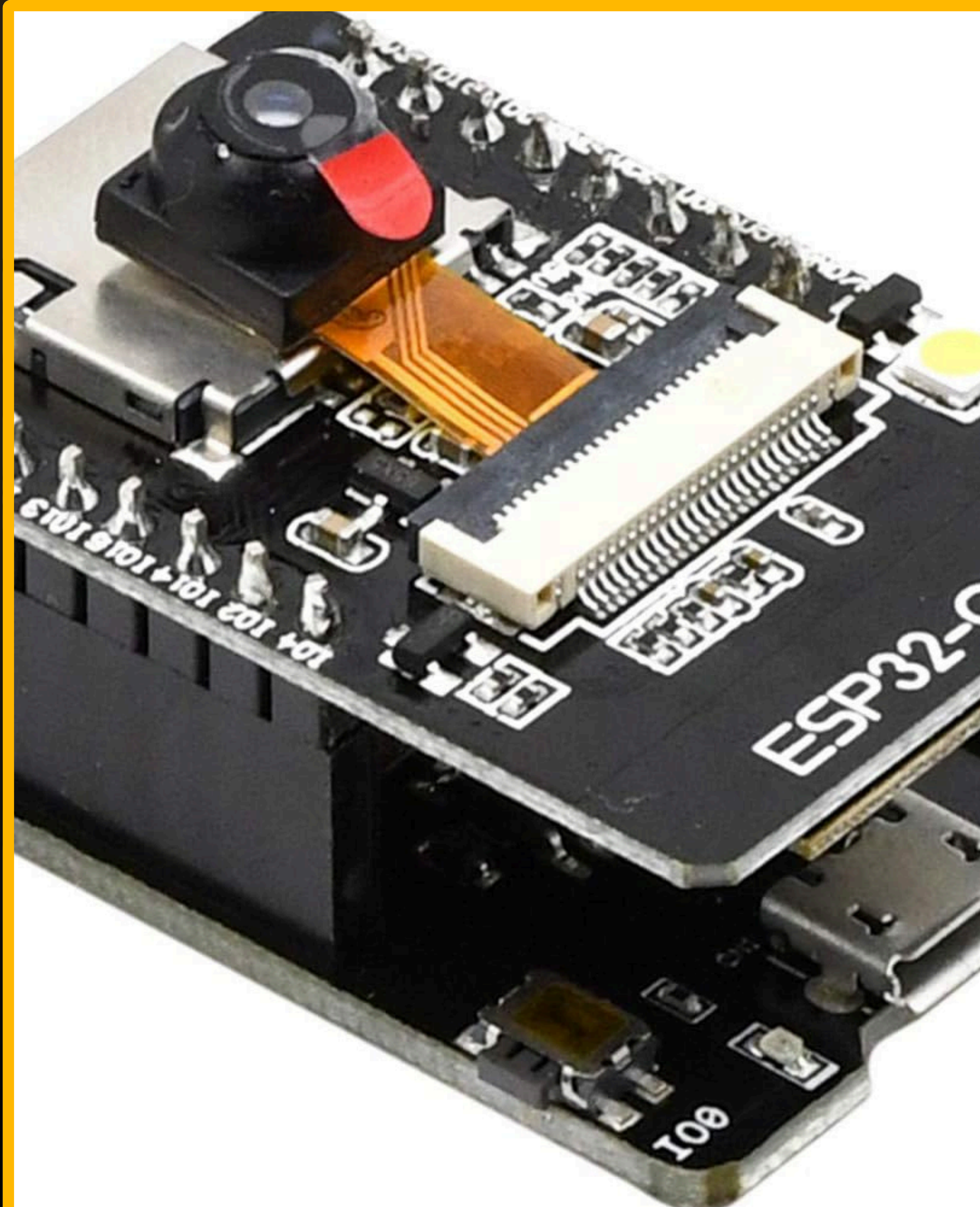
2MP CAMERA



BUILT-IN WI-FI



VARIOUS GPIOs



SOFTWARE

FIRMWARE FOR ESP32-CAM

WEB INTERFACE FOR REMOTE CONTROL

YOLO MODEL FOR OBJECT DETECTION

YOLO

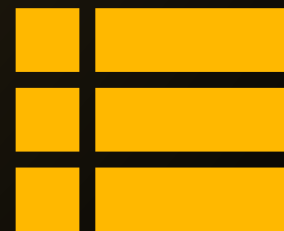
YOU ONLY LOOK ONCE



REAL-TIME

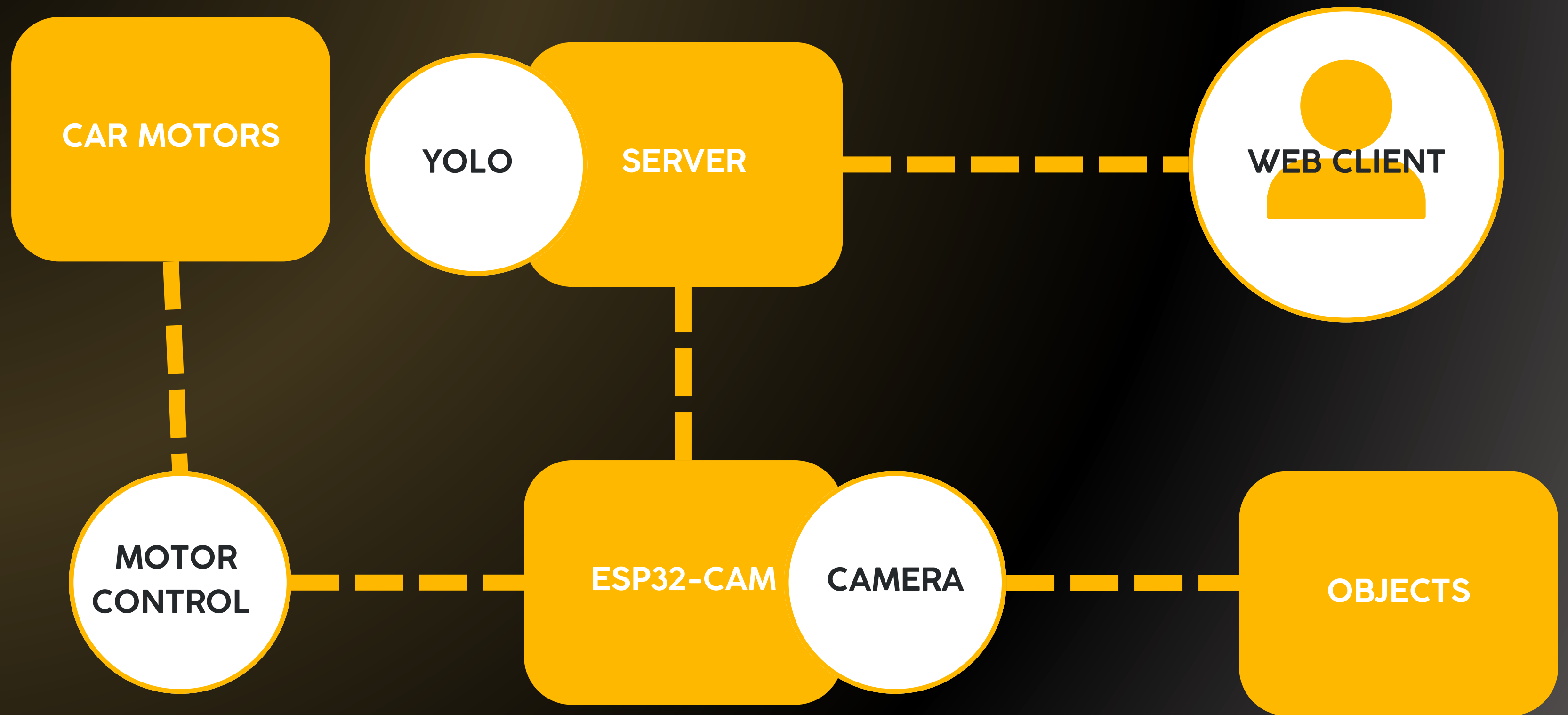


HIGH SPEED/ACCURACY

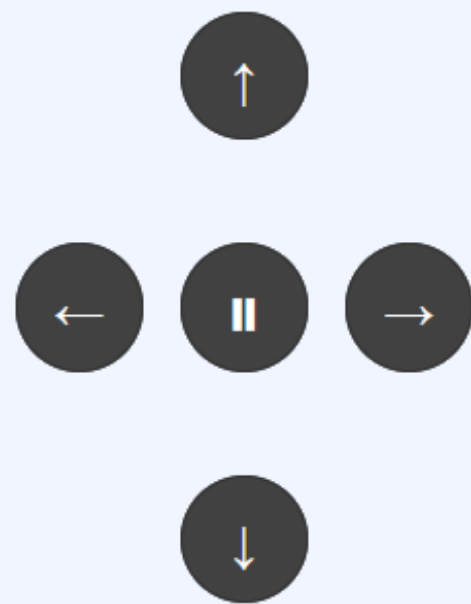


DETECT MULTIPLE OBJECTS

SYSTEM ARCHITECTURE



WEB INTERFACE



Servo 0	Servo 30	Servo 60
Servo 90	Servo 120	Servo 150
	Servo 180	
⚡ Flash		Rotate 90°
Enable obj detection		Disable obj detection

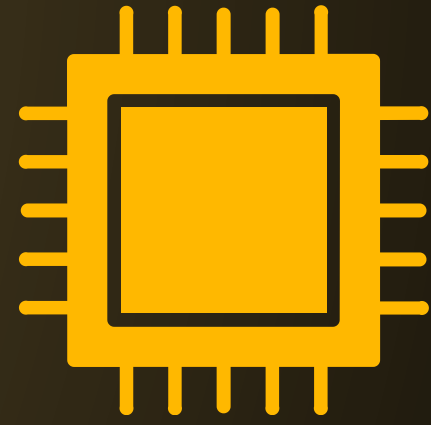
LES PROBLÈMES RENCONTRÉS

ET COMMENT NOUS AVONS RÉUSSI À LES RÉSOUDRE



PROBLÈME D'ÉNERGIE

**Energie non suffisante
pour alimenter tout les
composants du systeme**



CAPACITÉ DE CALCUL

**ESP32 a une
capacité de
calcul limitée.**



BANDE PASSANTE

**pas suffisante pour
échanger le flux
d'images avec GCP**

MERCI !