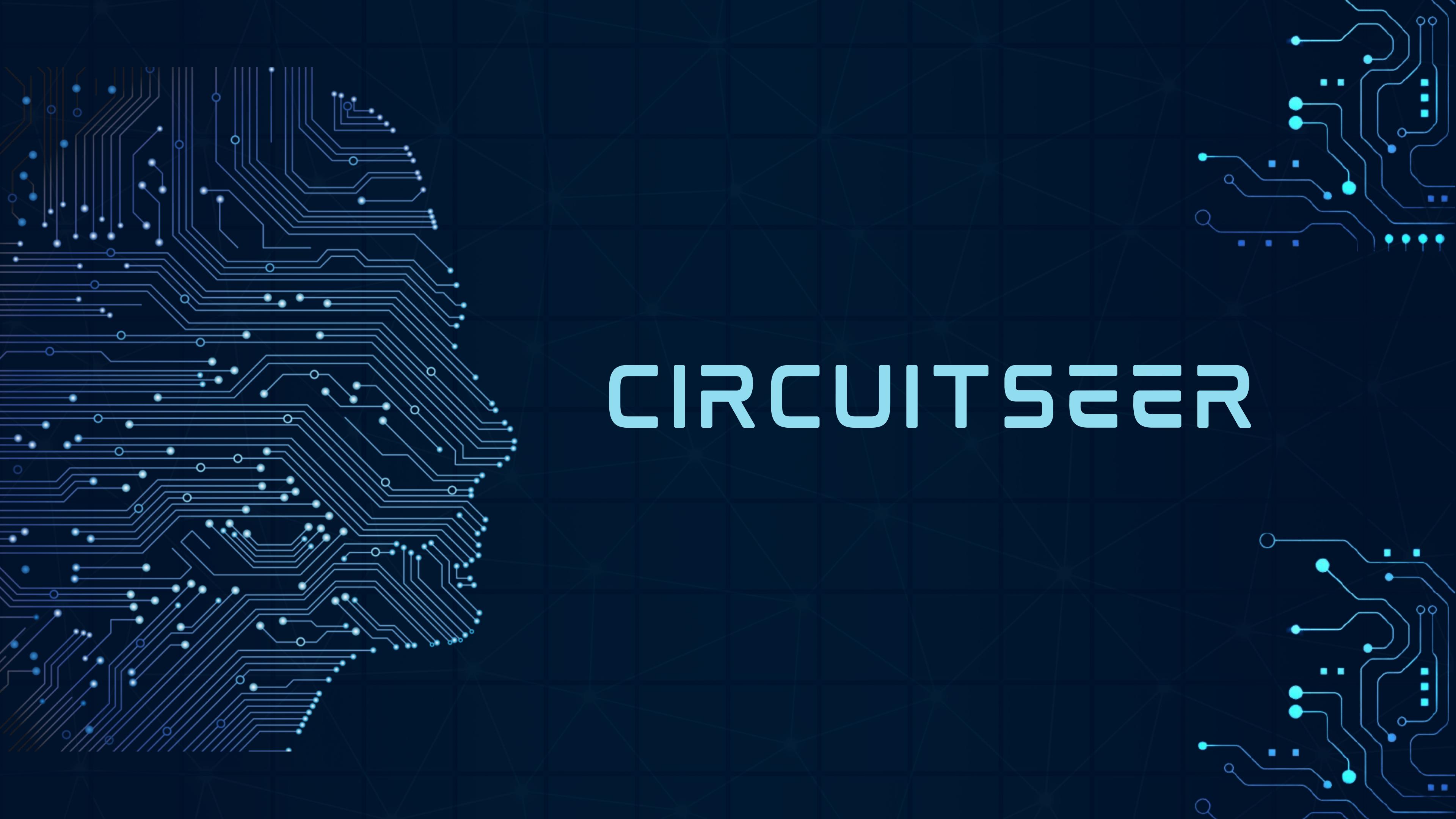




IMAGINE...





# CIRCUITSEER

# MEET THE TEAM



**SHAIK HATIM**  
Mentor



**KUSHAGRA BHARTI**



**SREEVASAN  
SIVASUBRAMANIAN**



**SAHISHNU  
SAGIRAJU**



**YUVRAJ KASHYAP**



**NISHANT BHAGAT**



**ETHAN UNG**

# OUR PROCESS



COMPONENT  
DETECTION



WIRE  
DETECTION



SOLVING  
THE CIRCUIT

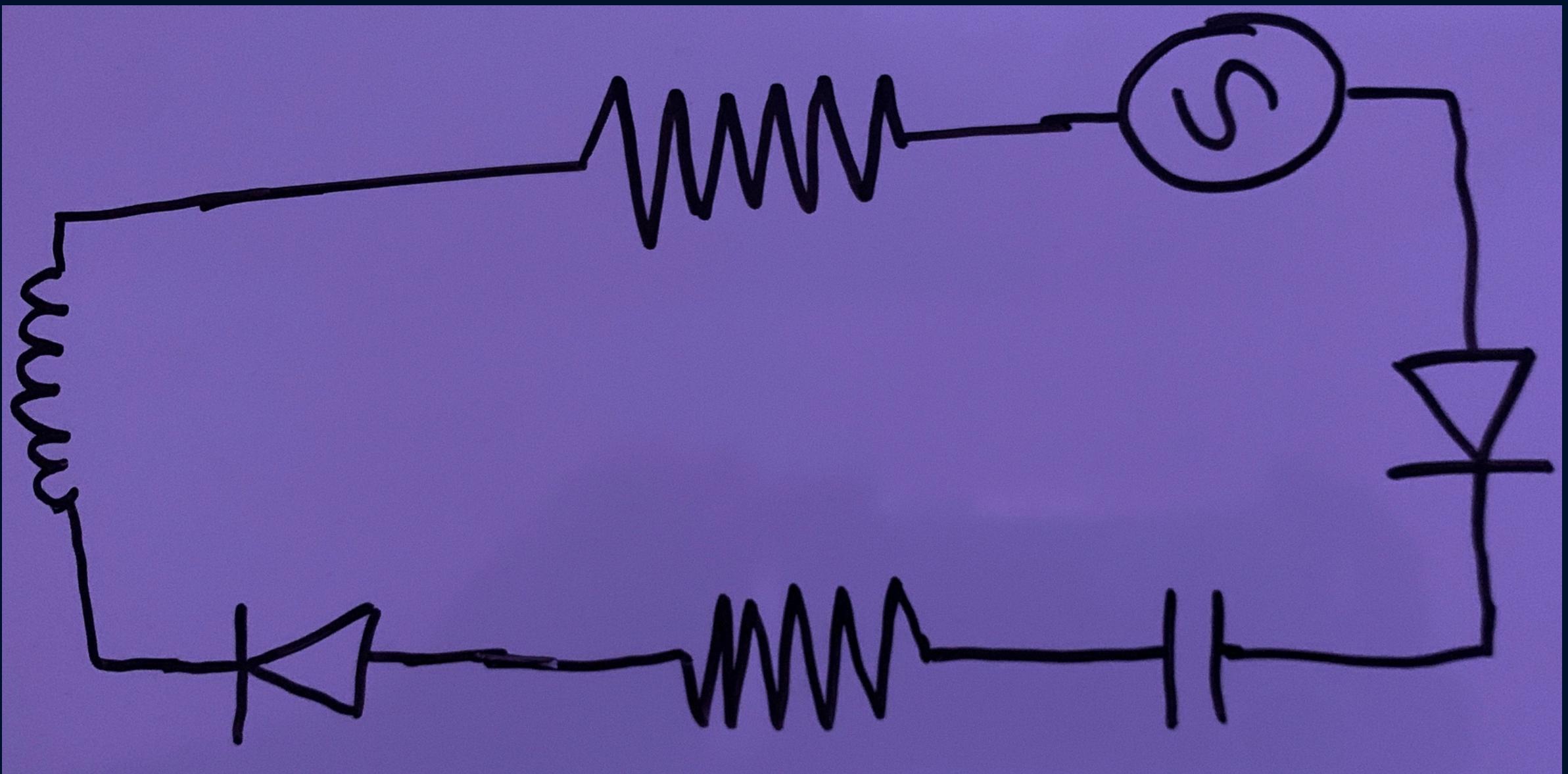


# OBJECT DETECTION

## YOLOv5

### What is YOLOv5

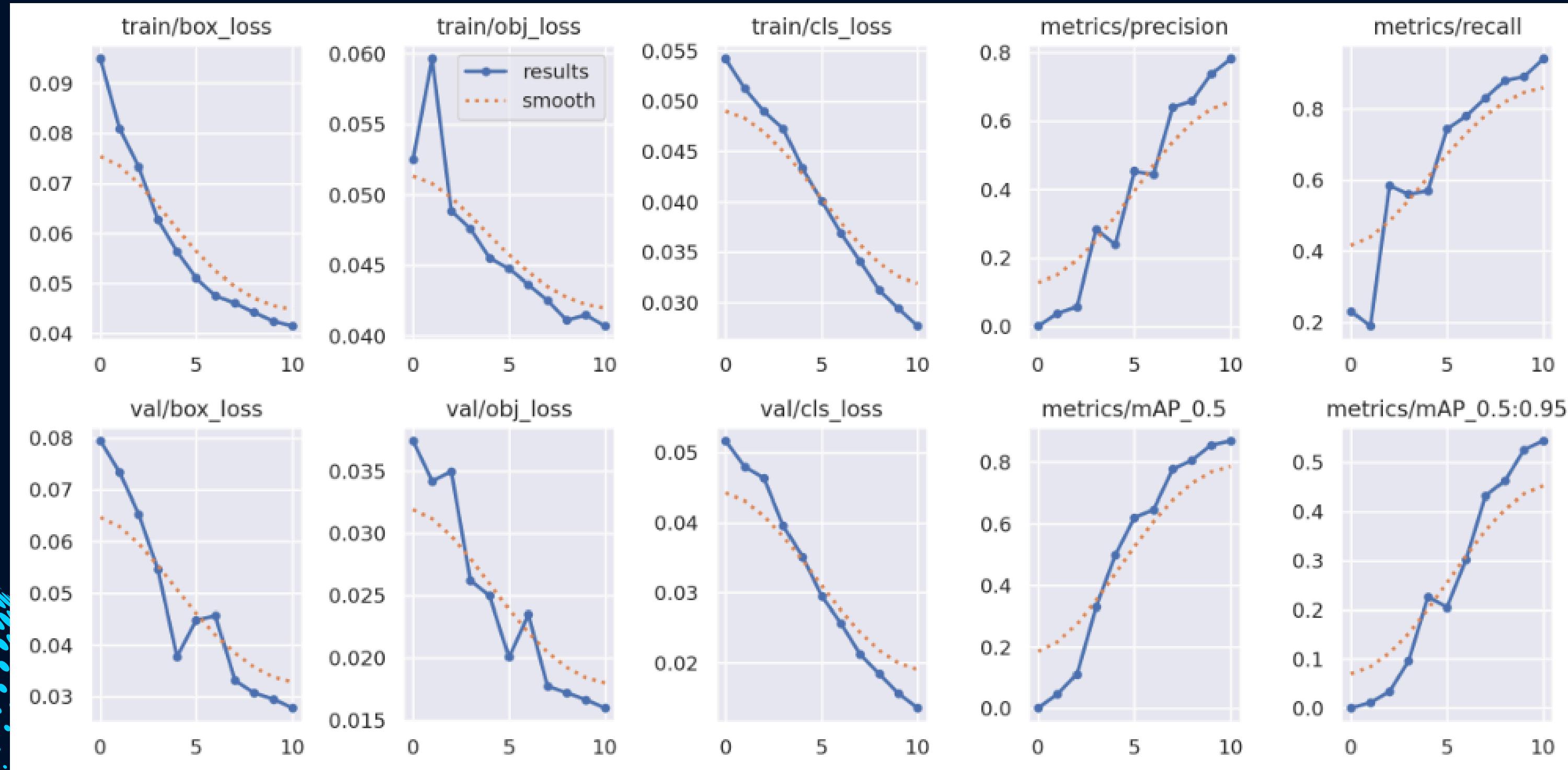
- You Only Look Once v5
- Why we chose YOLOv5 over YOLOv6
  - Single-Stage Real Time Object Detector
  - Fast, Accurate, Easy to use
  - Compact Model
  - Highly available tutorials and documentation



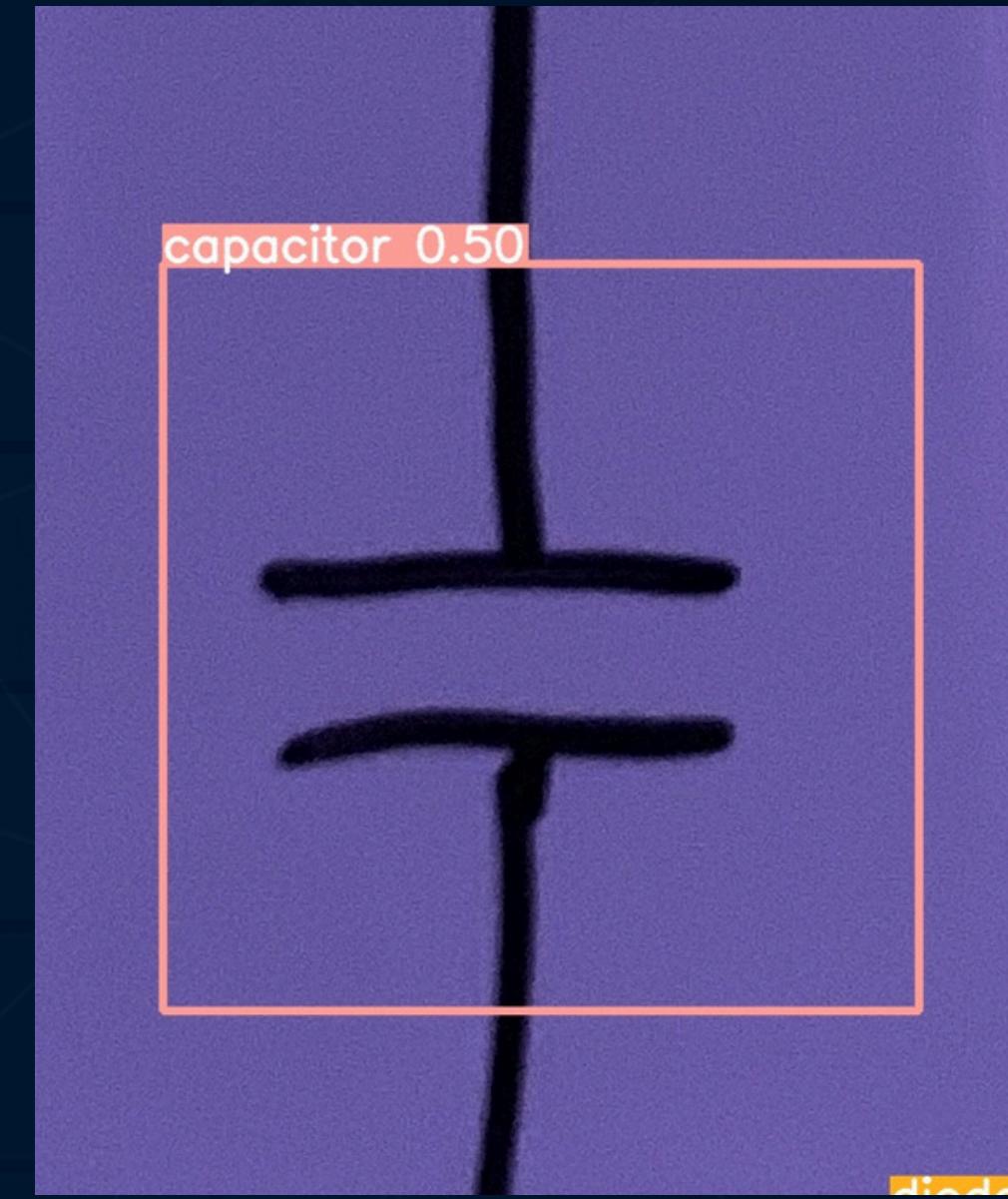
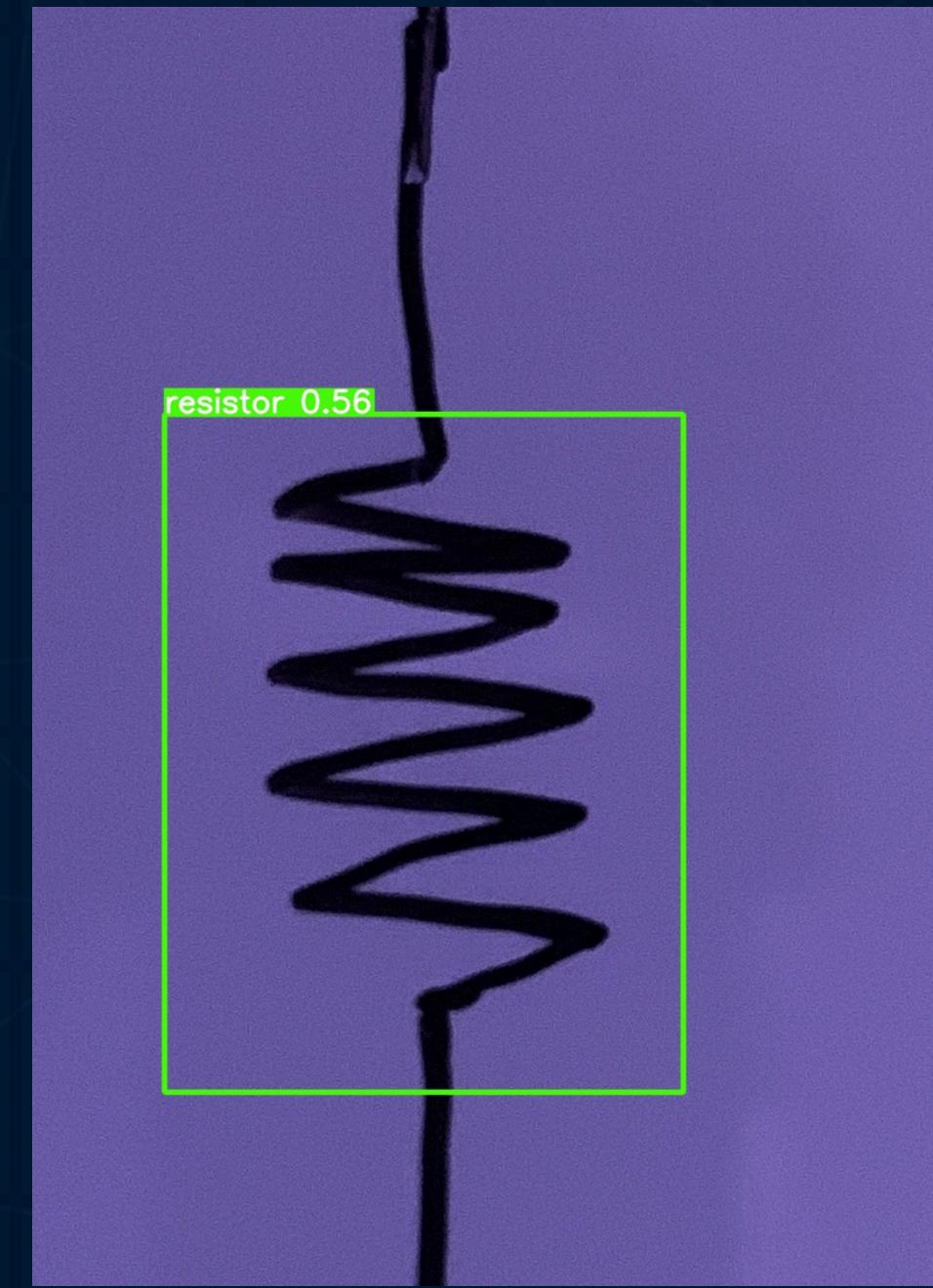
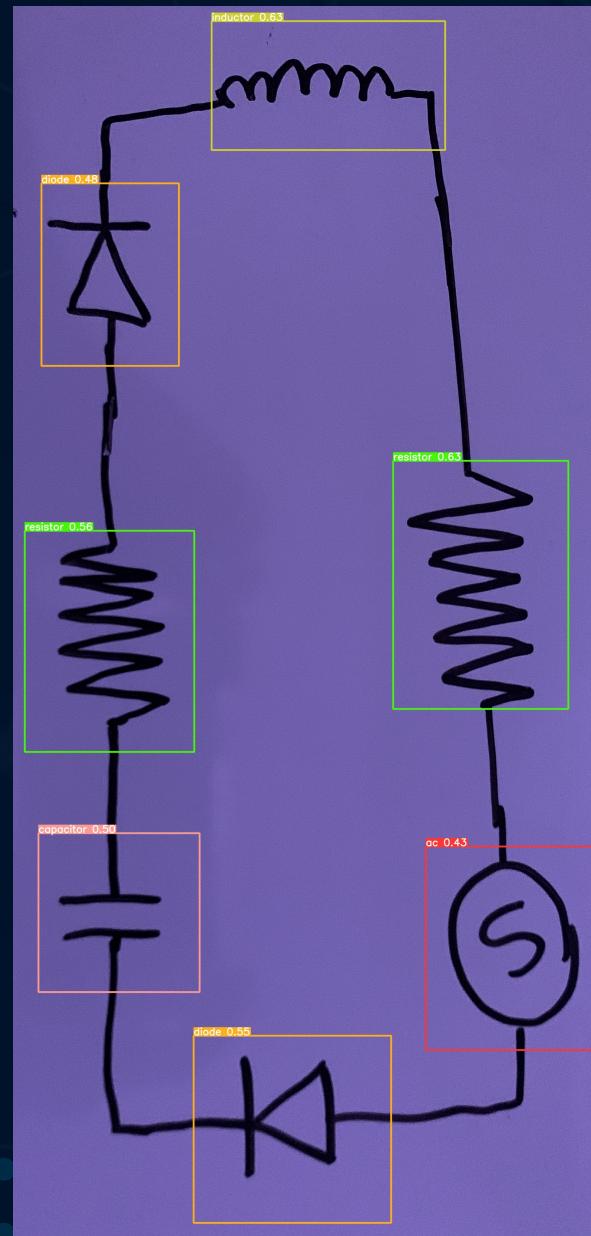


# OBJECT DETECTION

## YOLOv5



# OUR MODEL'S OUTPUT

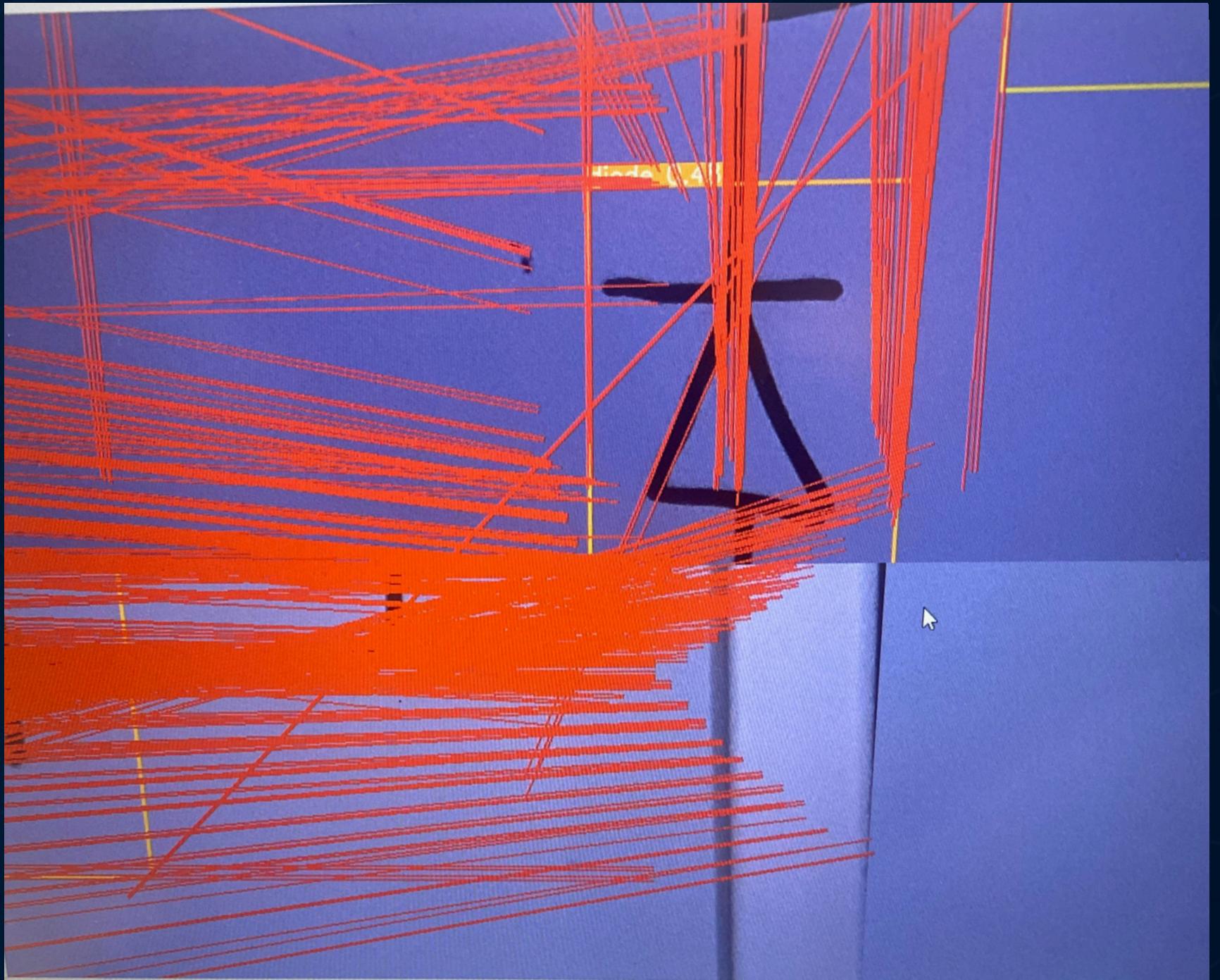


# WIRE DETECTION

01

## Algorithms Used

- Canny Edge Transform
- Hough Transform





# WIRE DETECTION

01

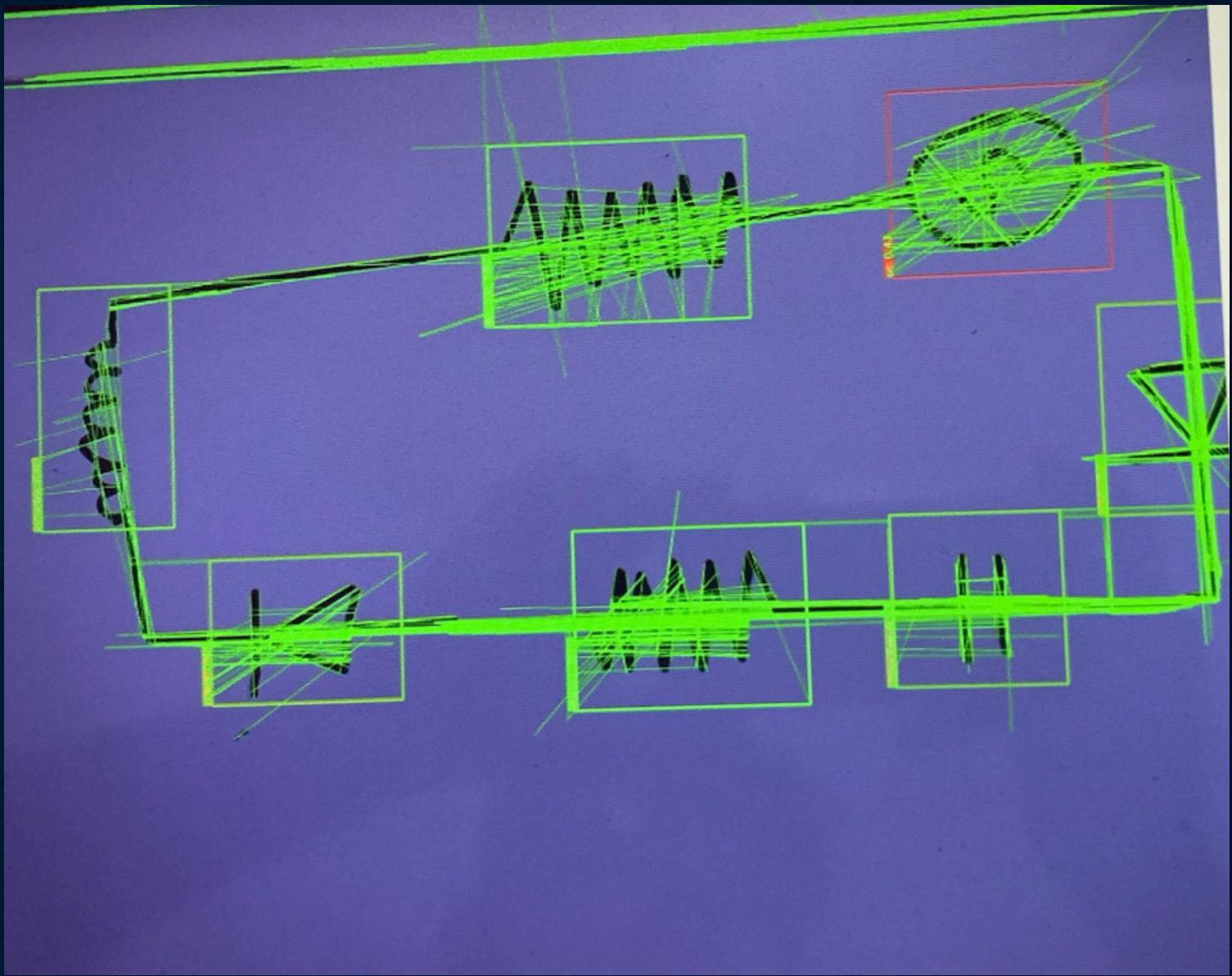
## Algorithms Used

- Canny Edge Transform
- Hough Transform

02

## Changes Made

- Structured Detection
- Contouring
- Selective Highlighting



# WIRE DETECTION



01

## Algorithms Used

- Canny Edge Transform
- Hough Transform

02

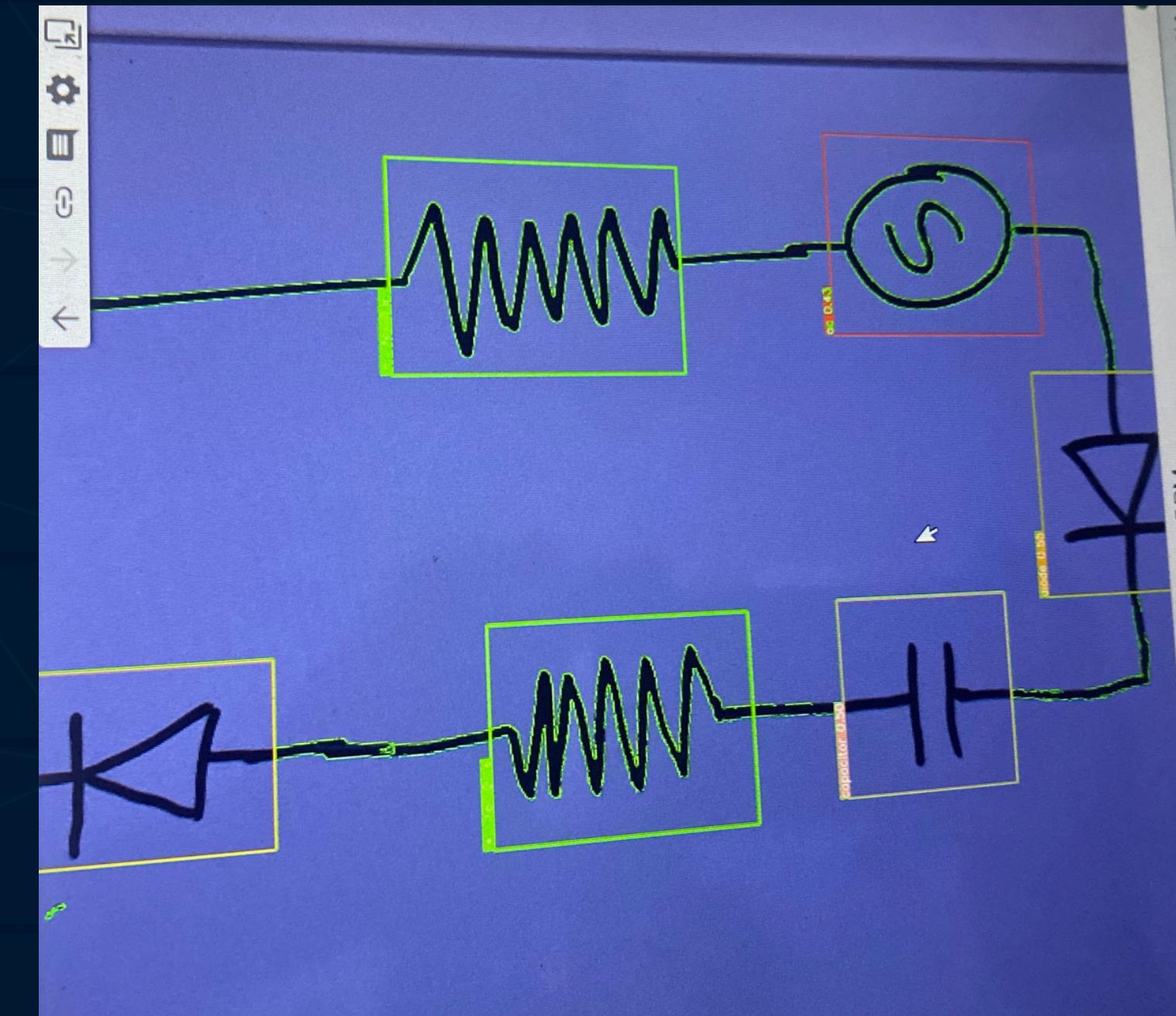
## Changes Made

- Structured Detection
- Countouring
- Selective Highlighting

03

## More Changes

- Symbol Recognition
- Enhanced Precision
- Schematic Conversion





# SOLVING THE CIRCUIT

SERIES

$$\frac{1}{\frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_{...}}}$$

PARALLEL

$$C_1 + C_2 + C_{...}$$

CAPACITANCE

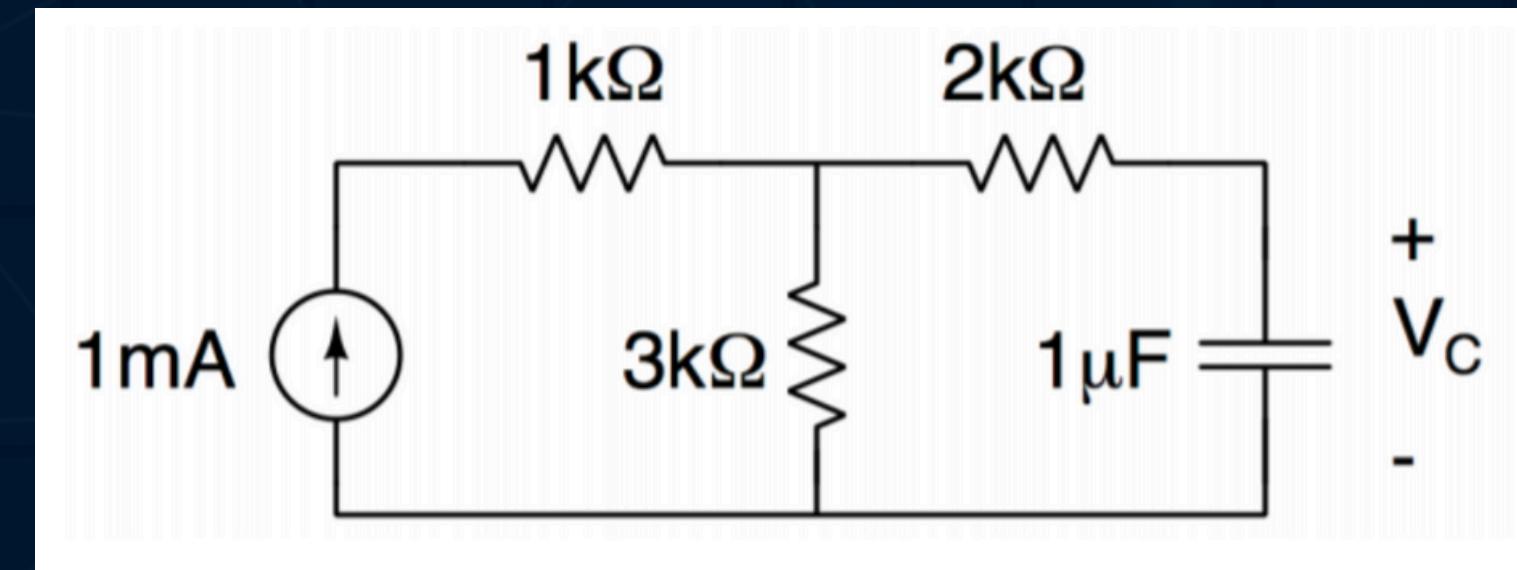
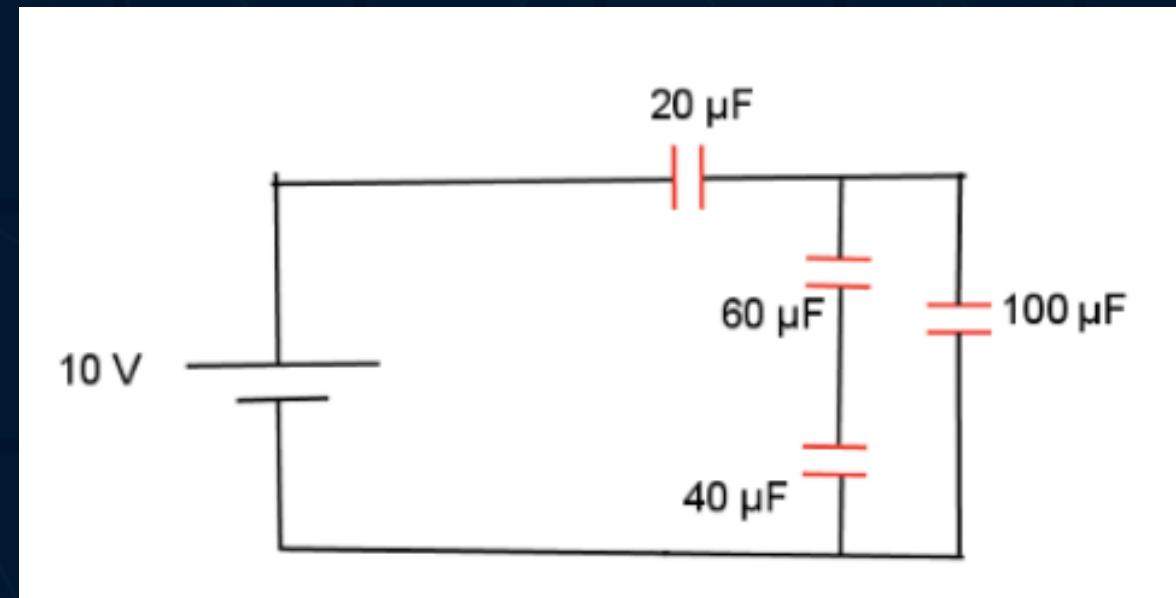
RESISTANCE

$$R_1 + R_2 + R_{...}$$

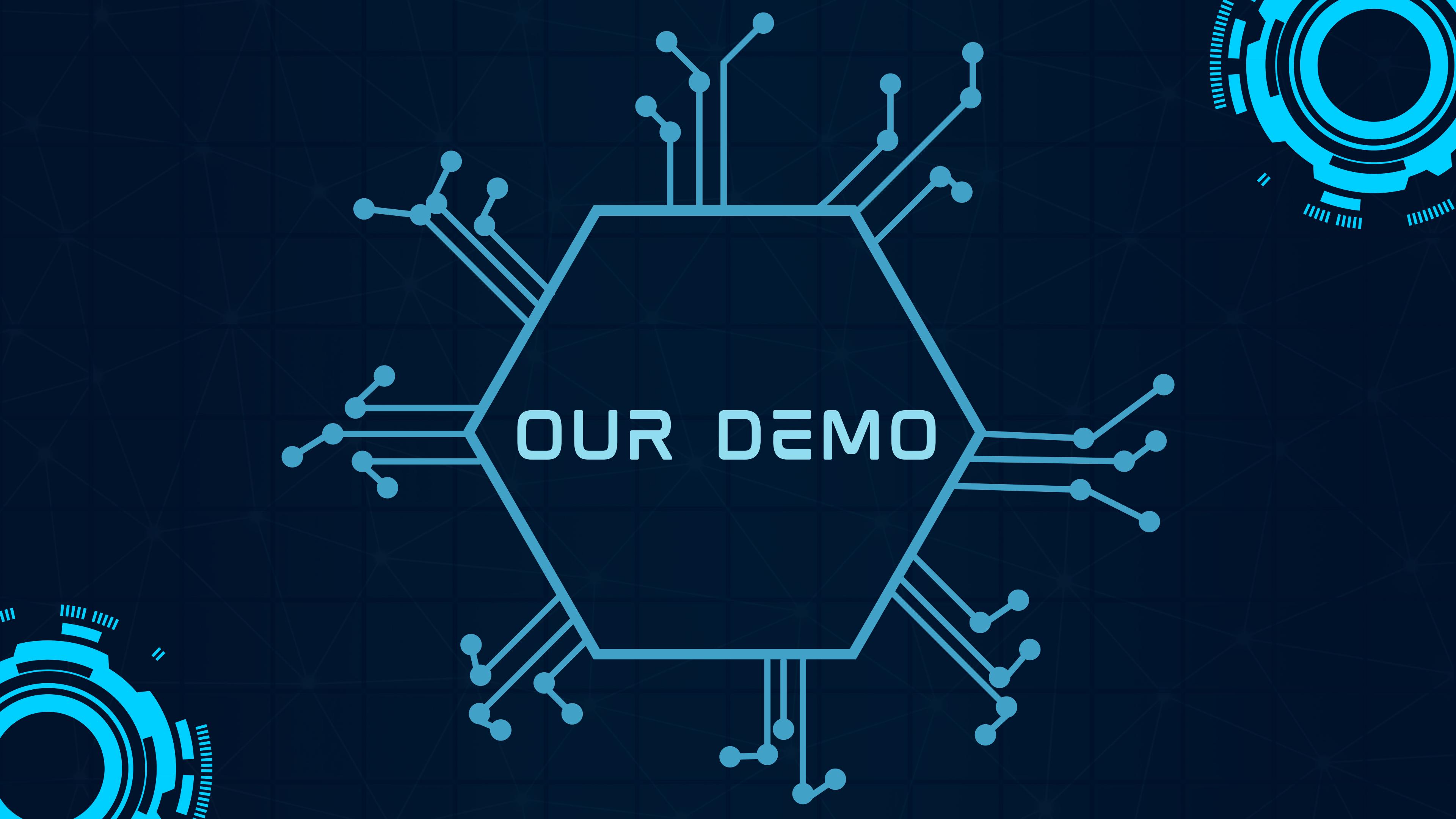
$$\frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_{...}}}$$



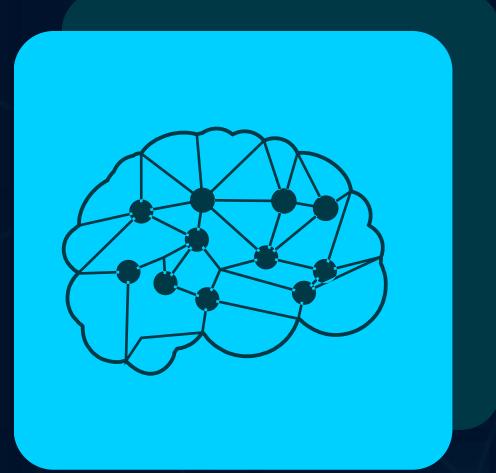
# SOLVING THE CIRCUIT



# OUR DEMO



# FUTURE INNOVATIONS



SOLVE MORE



ACCURACY



DISPLAYING  
CALCULATIONS



THANK YOU!  
TRY IT OUT

CIRCUITSEER.COM

