CVSPICE- CIRCUIT SOLVER
CVI Club
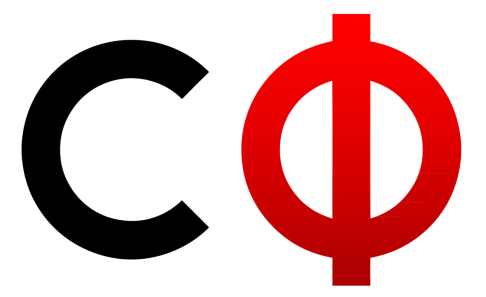
Circuit
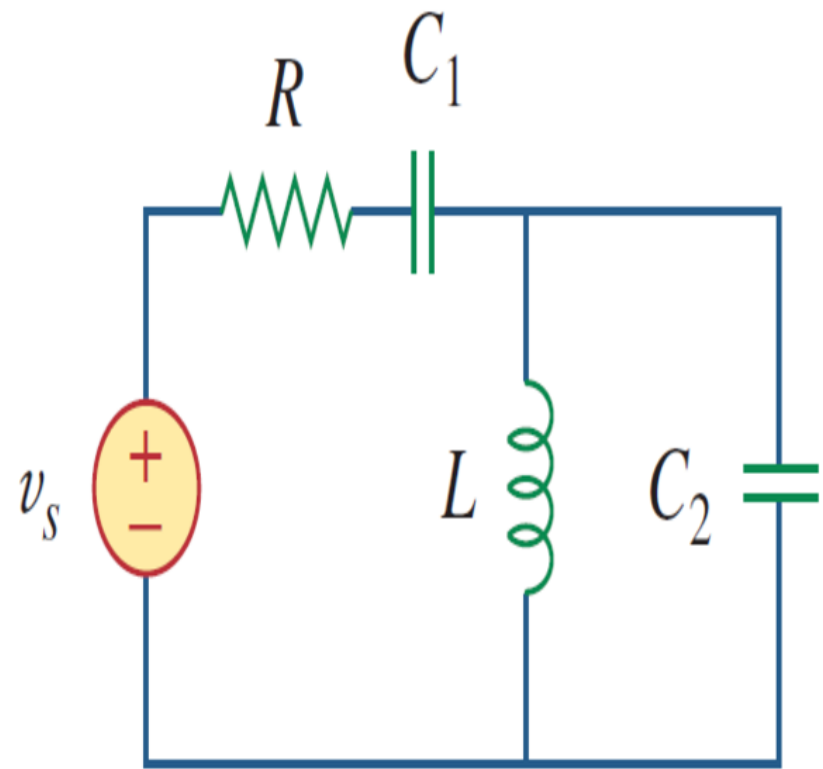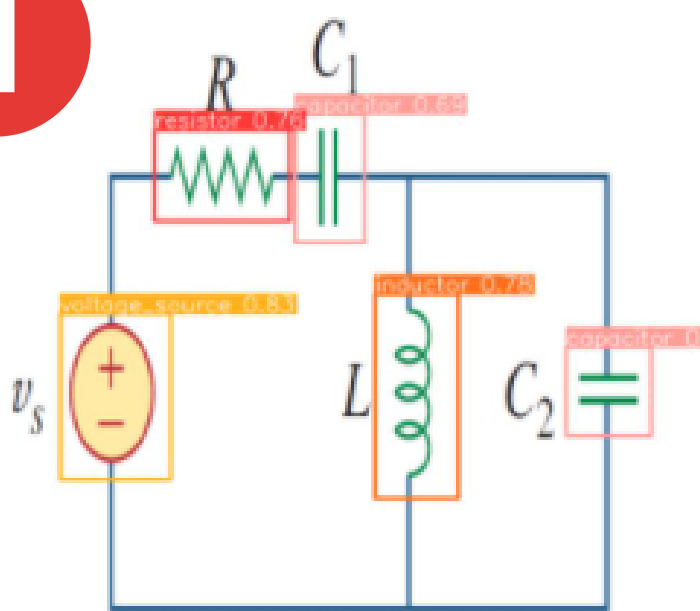

Netlist

Given an electric circuit image, outputs netlist describing components and their corresponding connectivity
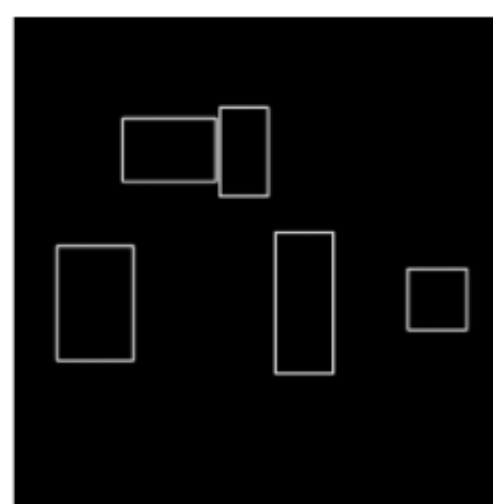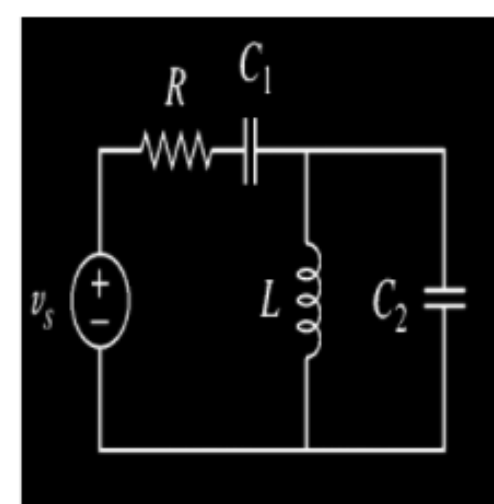
Identification of Circuit Components

1

Identification of Component's terminal points

 and =

2

We have trained around 350 annotated circuit images in YOLOv5 which identifies the circuit components with bounding boxes
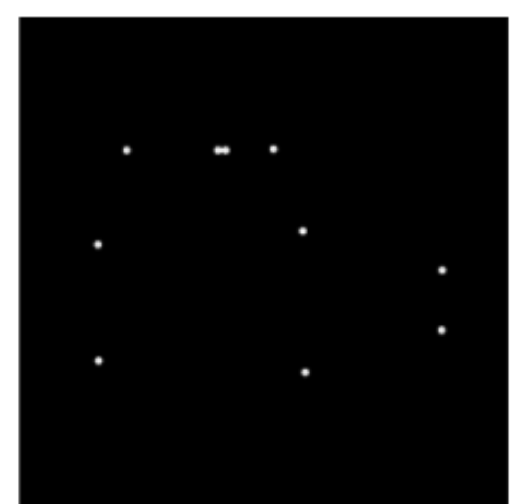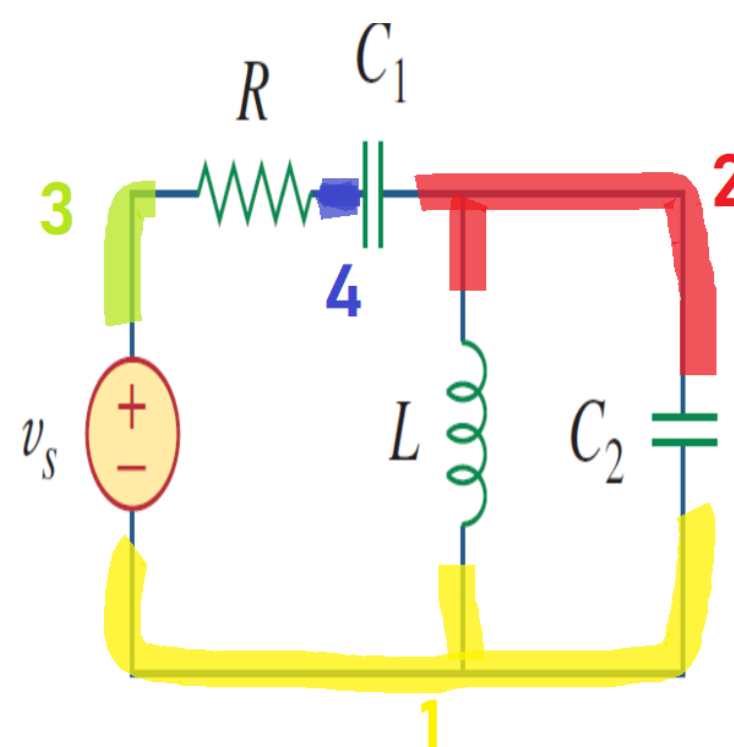
Terminal points of the circuit components are found by the intersection of the binary image of A-bounding boxes and B- adaptive thresholding of the original image.
(A and B) = terminal points

Identification of Nodes

3

The nodes of the circuit are found using Breadth-First Search(BFS) algorithm

We are trying to increase the dataset which will also include hand-drawn circuits, and we are exploring OCR for detecting the values of the components directly without the user giving an input.

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