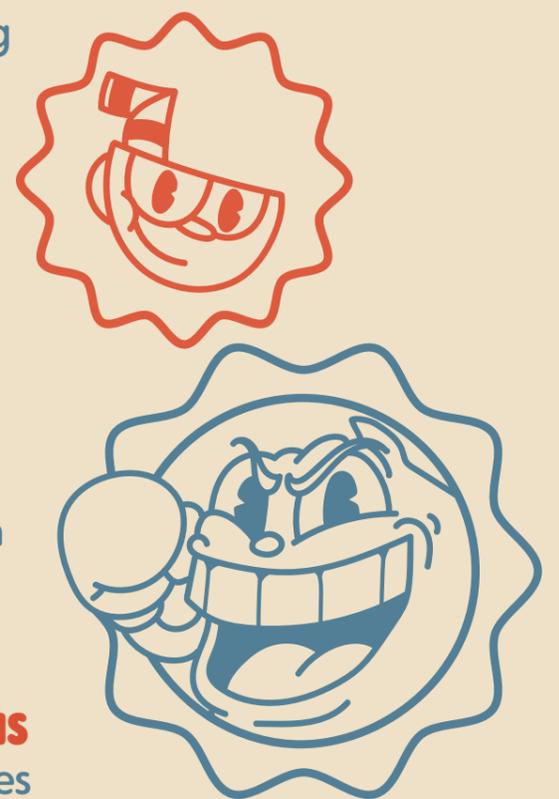


# OBJECT DETECTION WITH ONE-SHOT CONVOLUTIONAL NEURAL NETWORKS FOR PLAYING THE GAME CUPHEAD

The goal of this project has been to develop an A.I. approach for playing the game Cuphead using Convolutional Neural Networks, a decision making system and automatic keyboard interaction. Different object detection models were tested and after choosing YOLOv5 as the final model, it was re-trained using data that was labeled using a method for annotating images without having to manually label them.



**GAME** See the actions taken by the A.I. in the game and let the game move to a new state where new detections are made for further making decisions.



**OBJECT DETECTION** Each frame of the game is processed and given as input to the YOLO network for making detections.



## KEYBOARD INTERACTION

After making a decision and deciding which action to take, the automatic keyboard interaction happens for changing the state of the game.

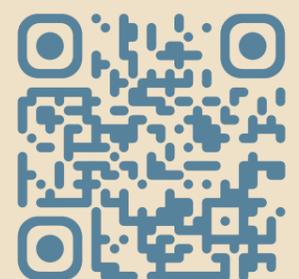


## MAKE DECISIONS AND TAKE ACTIONS

With the information that YOLO gives as output, decisions are made for taking actions that will change the state of the game.



## PROJECT



**TECHNOLOGIES**      
  

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