

AI 人工智慧教學

呂聰賢

KUGA 汽車安全系統

- **TSR 道路標誌識別輔助系**

<https://www.youtube.com/watch?v=kJfa2HsTtlg>

- 辨識的交通號誌牌.交通速限
- 超速時提示音效
- **AEB 全速域輔助煞停系統**
- 5-130km/h 偵測車輛
- 5-80km/h 偵測行人/自行車手



汽車偵測到人時

- 當偵測到前方車輛、行人或自行車手有碰撞風險時
<https://www.youtube.com/watch?v=Rk3odRogeGk>



自動停車系統

- 當車位太小時,啟動自動停車系統
- <https://www.youtube.com/watch?v=dQjntXvMVTE>
- <https://www.youtube.com/watch?v=eaFeHYDcLbA>

微軟的認知服務AZURE

- 語音辨識
- 人臉年齡，人臉情緒
- 印刷文字識別
- 英語手寫字辨識。

安裝和使用

- 安裝mBlock 5.0
- 申請mBlock帳號,啟動mBlock 並登入帳號
- 增加-延伸集
 - 認知服務(辨識影像,語音.文字等)
 - 機器深度學習(訓練電腦學習東西,建立類似人類大腦的人造神經網路)

延伸集



認知服務

開發人員: mBlock   

認知服務 API 能讓使用者添加其它功能，例如影像、語音、文字等辨識。



機器深度學習

開發人員: mBlock  

借助機器自己學習，你就不用為它寫程式，取而代之的是，你可以訓練電腦學習東西，建立類似人類大腦的人造神經網路。

登入帳號

The screenshot displays the mBlock software interface. At the top, a blue navigation bar contains the text "mBlock" and several icons: a globe, a folder labeled "檔案", a wrench labeled "編輯", a save icon labeled "儲存", and a "發佈" button. To the right of these are icons for "教學課程" and "意見反應", followed by a user profile icon with a red circle containing the number "1" and the text "積木".

The main workspace is divided into several sections. On the left, there is a large white area with a cartoon panda character in the center. Below this area are three window management icons (maximize, window, close). Underneath, there are two tabs: "設備" and "角色". The "設備" tab is active, showing a "Panda" block with a close button and a "添加" button with a plus sign. The "角色" tab is also visible.

In the center, a vertical toolbar contains several colored circles representing different block types: blue for "動作", purple for "聲音", yellow for "事件", orange for "運算", green for "變數", and red for "自定積木". At the bottom of this toolbar is a blue plus sign icon with a red circle containing the number "2" and the text "延伸集".

On the right side of the workspace, there is a "新增積木指令" button and a large grid area with a dotted pattern. A red circle with the number "1" is positioned above the "積木" label on the right side of the grid.

1 辨識人臉年齡

當  被點一下

 在 秒後，辨識人臉年齡

說  年齡識別結果

2 辨識性別

當  被點一下

 在 秒後, 辨識性別

說  性別辨識結果

3 辨識中文



A Scratch script on a grid background. It starts with a yellow '當被點一下' (When clicked) block. This is followed by a pink '在 2 秒後辨識 中文(繁體) 印刷文字' (Recognize printed text in Chinese (Traditional) after 2 seconds) block. Finally, there is a purple '說 文字辨識結果' (Say text recognition result) block.

```
當被點一下  
在 2 秒後辨識 中文(繁體) 印刷文字  
說 文字辨識結果
```

4辨識文字組合



A Scratch script on a grid background. It starts with a yellow '當被點一下' (When clicked) block. This is followed by a pink '在 2 秒後辨識 中文(繁體) 印刷文字' (Recognize printed Chinese (Traditional) text in 2 seconds) block. The final block is a purple '說' (Say) block containing a green '組合字串 答對了' (Concatenate 'Correct') block and a pink '文字辨識結果' (Text recognition result) block.

當 被點一下

在 2 秒後辨識 中文(繁體) 印刷文字

說 組合字串 答對了 和 文字辨識結果

5 辨識英文手寫文字



A Scratch script with three blocks:

- When clicked** (yellow block): 當  被點一下
- Wait 2 seconds** (pink block): 在 秒後辨識英文手寫文字
- Say** (purple block): 說  文字辨識結果

6 辨識語音

當  被點一下



開始

中文(繁體) ▼

語音識別, 持續

5 ▼

秒

說



語音識別結果

7 辨識笑容程度



8 搭配外觀積木變大小



10 搭配動作積木走路速度

