

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 button labeled "發佈". 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 are three window management icons (maximize, window, close). Underneath, there are two tabs: "設備" (Equipment) and "角色" (Character). The "設備" tab is active, showing a "Panda" character icon with a close button and a "添加" (Add) button with a plus sign.

In the center, a vertical toolbar contains several colored circles representing different block types: blue for "動作" (Action), purple for "聲音" (Sound), yellow for "事件" (Event), orange for "運算" (Math), green for "變數" (Variable), and red for "自定積木" (Custom Block). At the bottom of this toolbar is a blue button with a plus sign and the text "延伸集" (Extension Pack), which has a red circle containing the number "2" next to it.

On the right side of the workspace, there is a "新增積木指令" (Add Block Command) input field and a large grid of dots for block assembly. A blue tab labeled "積木" (Block) is visible at the top right of this 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



3 辨識中文



A Scratch script with three blocks: a yellow '當被點一下' block, a pink '在 2 秒後辨識 中文(繁體) 印刷文字' block, and a purple '說 文字辨識結果' 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 text in Chinese (Traditional) after 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

The image shows a screenshot of a voice recognition interface. A yellow callout box highlights the text '當' followed by a green flag icon and '被點一下'. A pink callout box highlights the '開始' button, a language dropdown menu set to '中文(繁體)', the text '語音識別, 持續', a duration dropdown set to '5', and the unit '秒'. A purple callout box highlights the '說' button and a pink button labeled '語音識別結果'.

7 辨識笑容程度



8 搭配外觀積木變大小

The image shows a Scratch script with four blocks:

- When a key is pressed:** A yellow block with the text "當 空白鍵 ▾ 鍵被按下".
- Recognize face emotion:** A pink block with the text "在 1 ▾ 秒後辨識人臉情緒".
- Say:** A purple block with the text "說 [高興 ▾] 的數值".
- Set size to:** A purple block with the text "將大小設為 [高興 ▾] 的數值 %".

10 搭配動作積木走路速度

