

資訊科技教育教學法系列：
概述運用人工智能於教育（中學）

EI0020200272

第一節

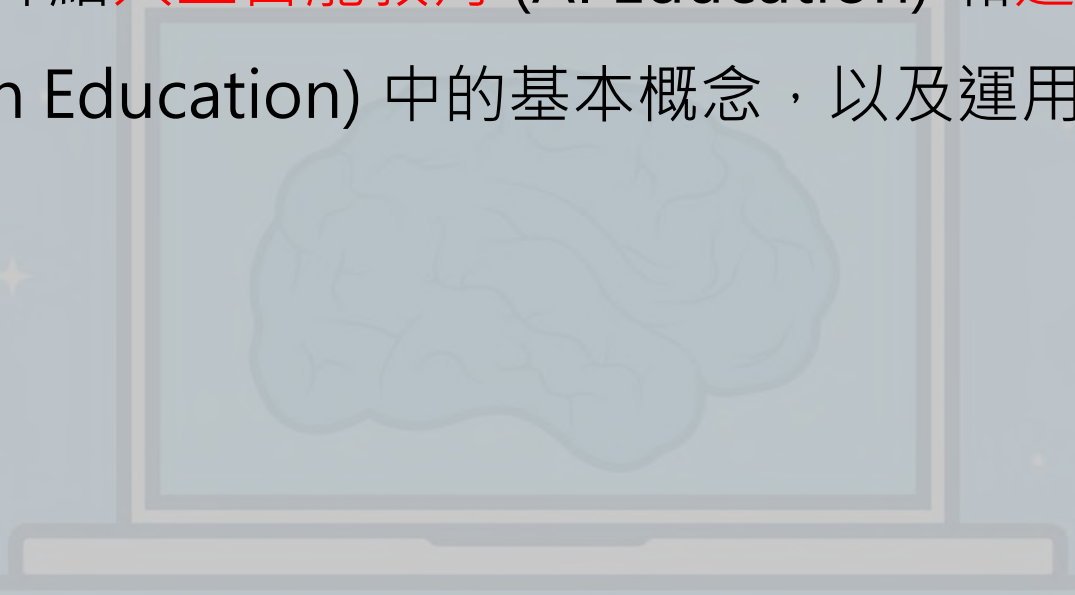


e-Learning Development Laboratory

Department of Electrical and Electronic Engineering
The University of Hong Kong

工作坊目標

本課程旨在介紹**人工智能教育 (AI Education)** 和**運用人工智能於教育 (AI in Education)** 中的基本概念，以及運用相關技術的應用。



請加入課程群組

- HKU_概述運用人工智能於教育_SS_R3AA
- <https://chat.whatsapp.com/DC2ESRCr23BDfJwDUbFHc6>



工作坊詳情

1. 概述 **人工智能教育** (AI Education) 和 **運用人工智能於教育** (AI in Education) 中的基本概念；
2. 工作坊：了解 AI in Education 如何提升當前和未來的學與教效能；
3. 介紹使用一些 AI in Education 有關的資訊科技工具和硬件套件的功能；
4. 討論 AI in Education 的未來發展方向。

導師簡介

Course Designer:

Mr. Wallace MAN

Course Instructors:

Mr. Peter CHUNG

Mr. Alex KONG

課堂詳情

課程共分為兩節，每節三小時，有關課程內容簡述如下：

第一節 (三小時)：

- 1) 概述**人工智能教育** (AI Education AIEd) 和**運用人工智能於教育** (AI in Education) 中的基本概念
- 2) 工作坊：**人工智能教育** (AI Education AIEd)
Part 1: Apple Swift Playground (CoreML + YOLO)
Part2: Google Experiment, Google AIY
- 3) 習作討論
如何應用人工智能於教育中

1) 概述人工智能教育 (AI Education) 和運用人工智能於教育 (AI in Education) 中的基本概念

AI & IOT

A POWERFUL COMBINATION

HOW TWO BROAD TECHNOLOGIES ARE INFLUENCING LIFE IN THE LAB



Alpha Go!? (HK01新聞)



世界第一棋手
柯潔

解構原理

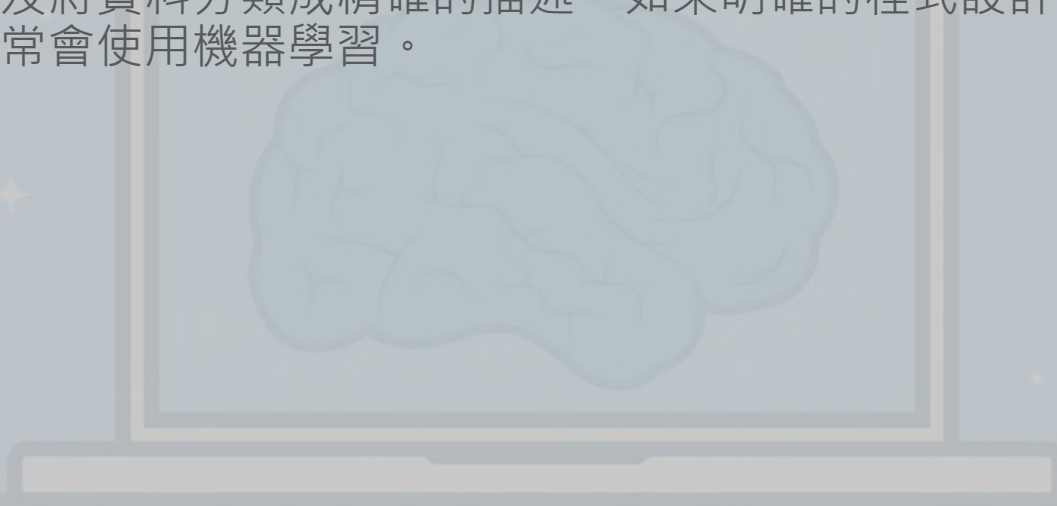
點解 AlphaGo
咁勁嘅?

人工智能 (AI)

- 人工智能或人工智慧 (Artificial Intelligence , 簡稱 AI) , 是指研究、開發用於模擬、延伸和擴展人類智慧的理論、方法、技術及應用系統的一門技術科學

機器學習 (ML)

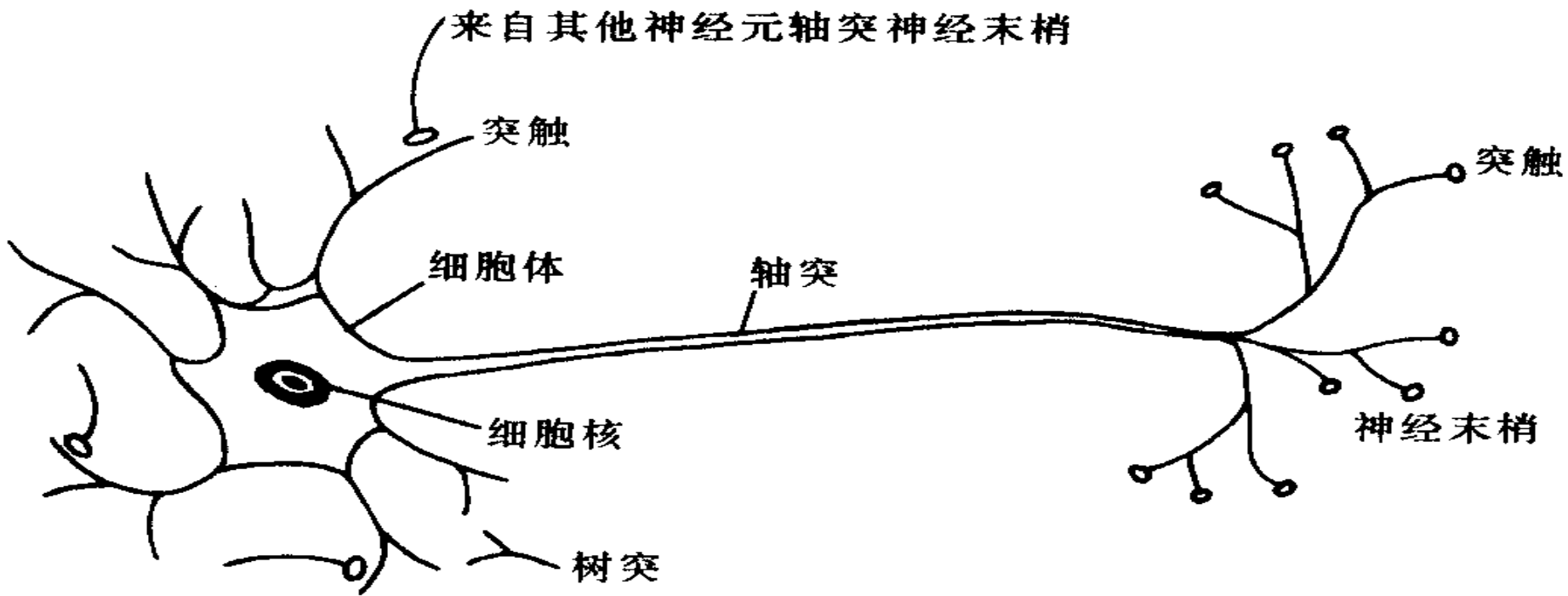
- 用於模式辨識和學習。機器學習的核心是演算法的集合，可根據記錄的資料學習和進行預測、優化不確定情況下的特定公用程式函數、從資料擷取隱藏的結構，以及將資料分類成精確的描述。如果明確的程式設計太過於死板或不實際，通常會使用機器學習。



深度學習 (Deep Learning)

- 是基於人工神經網絡嘅一種機械學習做法。
- 深度學習係一類機械學習演算法，特徵是用分做多層，每一層都負責由輸入嗰度抽取比前一層高層次嘅特徵。

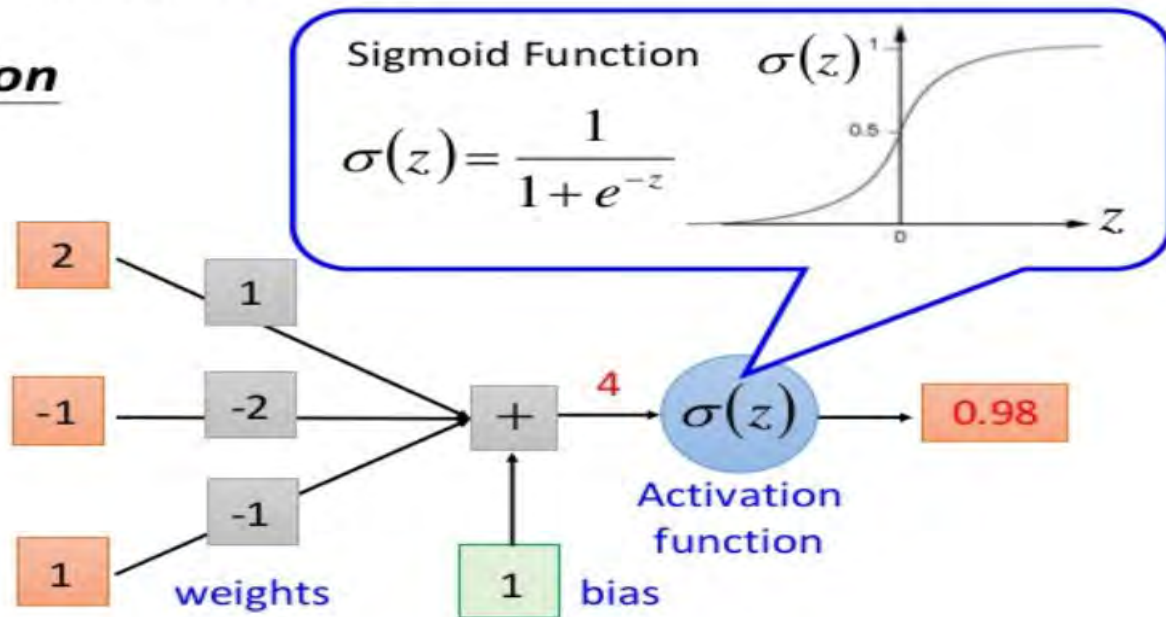
神經元 (Neuron)



神經元的模型

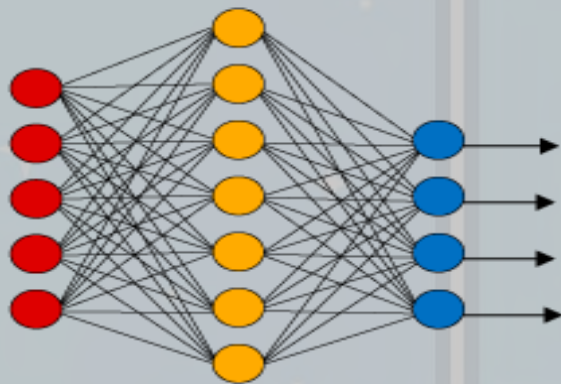
Neural Network

Neuron

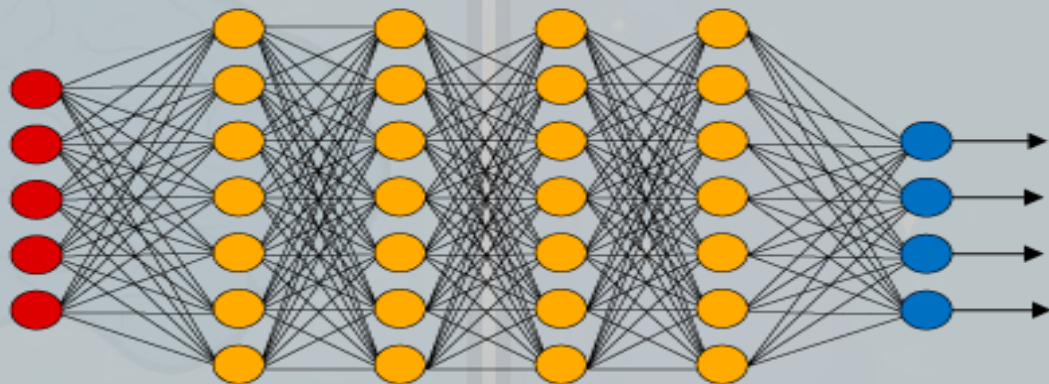


神經網絡 (NN)

Simple Neural Network



Deep Learning Neural Network



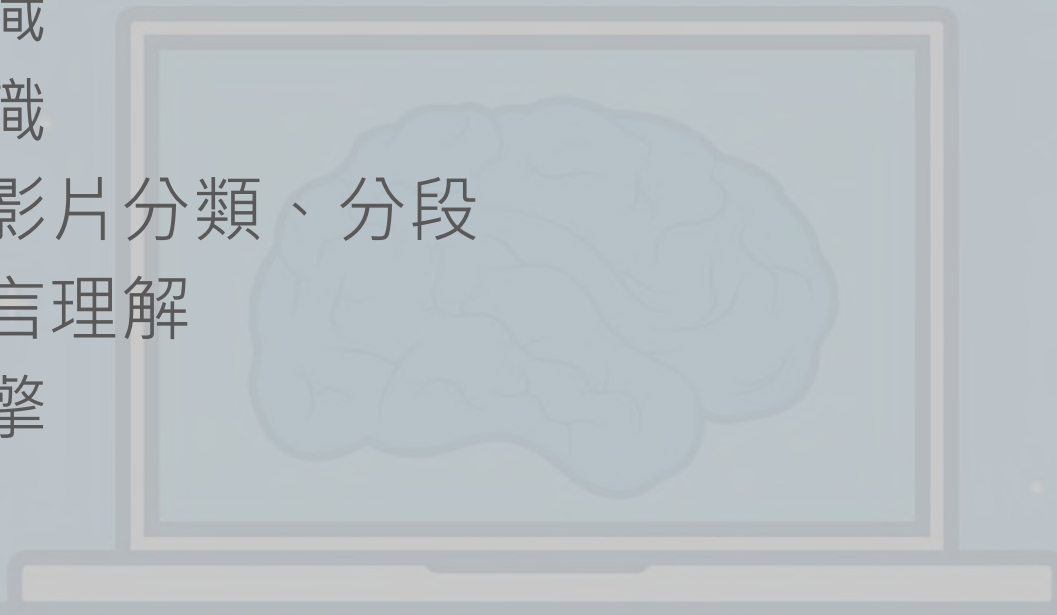
● Input Layer

● Hidden Layer

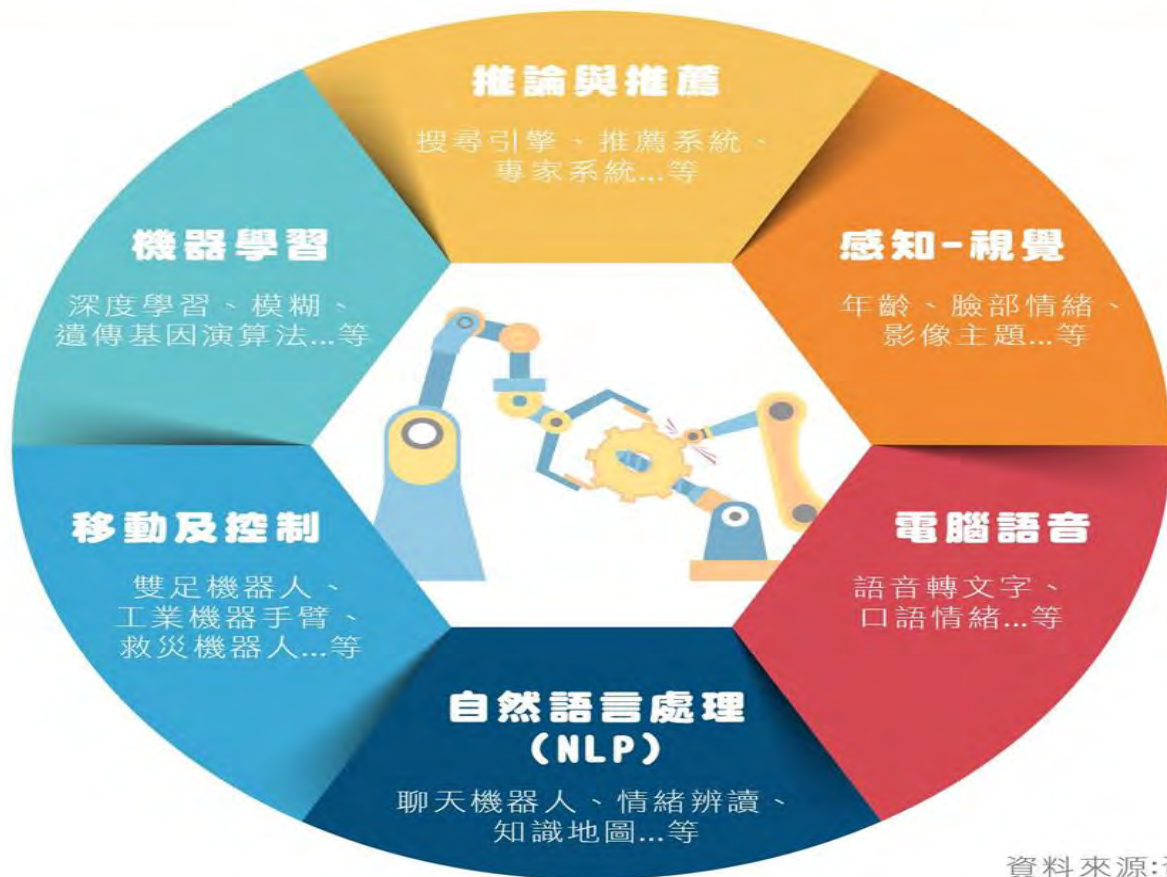
● Output Layer

使用人工智能的應用例子

- 圖像辨識
- 語音辨識
- 影像和影片分類、分段
- 自然語言理解
- 推薦引擎
- ...



人工智慧主要技術分類



商業應用的案例

- **異常偵測**

- 識別與預期模式或資料集其他項目不一致的項目、事件或觀察。

- **詐騙偵測**

- 建立預測模型，協助識別潛在的詐騙零售交易，或偵測詐騙或不適當的項目評論。

- **客戶流失率**

- 找出流失風險最高的客戶，以便透過促銷或提供客戶服務積極與客戶接觸。

- **內容個人化**

- 使用預測分析模型，根據客戶之前的行為來推薦項目或優化網站流量，以提供更加個人化的客戶體驗。

聊天機器人 (Chatbot)



什麼是聊天機器人 Chatbot?

它是能自動幫你導入客流量好幫手!

AI 人工智慧發展四大條件



資料來源：投資家日報

人工智能應用的限制

- 理解人類的語言的真正意義
- 在藝術和創作方面，人工智能仍處於起步階段
- AI駭客的攻擊？
- 人工智能是否明辨是非？
- <https://willrobotstakemyjob.com/>

人工智能應用的優點及缺點

優點	缺點
<ul style="list-style-type: none">• 機器可長時間工作• 處理一些低技術而重複勞動的工作	<ul style="list-style-type: none">• 大規模失業危機• 加劇貧富懸殊• 機械失控危機• 隱私權的保護• 透明度和安全性

Finland

<https://www.elementsofai.com/>



Chapter 1 What is AI?

Section	Exercises
I. How should we define AI?	1/1
II. Related fields	0/2
III. Philosophy of AI	0/1



Chapter 2 AI problem solving

Section	Exercises
I. Search and problem solving	0/2
II. Solving problems with AI	---
III. Search and games	0/1



Chapter 3 Real world AI

Section	Exercises
I. Odds and probability	0/2
II. The Bayes rule	0/2
III. Naive Bayes classification	0/2



Chapter 4 Machine learning

Section	Exercises
I. The types of machine learning	---
II. The nearest neighbor classifier	0/2
III. Regression	0/4



Chapter 5 Neural networks

Section	Exercises
I. Neural network basics	0/1
II. How neural networks are built	0/2
III. Advanced neural network techniques	---



Chapter 6 Implications

Section	Exercises
I. About predicting the future	0/1
II. The societal implications of AI	0/1
III. Summary	0/1

台灣：人工智慧互動平台 鴻海人工智慧導論

<https://ai.foxconn.com>



首頁

圖像辨識

自然語言處理

創作 AI

語音辨識

知識發現

聯絡我們

人工智慧 互動平台
鴻海人工智慧導論



Singapore AI for Students :

<https://www.aisingapore.org/talentdevelopment/ai4s/>



AI SINGAPORE

Search...

Home ▾ AI Research ▾ AI Technology ▾ AI Innovation ▾ AI Makerspace Talent Development ▾ AI Certification Events News & Media ▾ Co

AI for Students™

AI for Students (AI4S)™ is a programme to equip our next generation of AI talents with basic programming and data skills. Through AISG's partnership with DataCamp, schools can tap on one of the best data science education platforms to teach data skills to the students and make data fluency part of their learning journey.

1st AI-powered adaptive education provider in China
<http://squirrelai.com>

HOME ABOUT IALS



PRESS CONNECT GALLERY

1st AI-powered adaptive education provider in China

全球教育智能化发展报告 <https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/technology-media-telecommunications/deloitte-cn-tmt-global-development-of-ai-based-education-zh-191108.pdf>

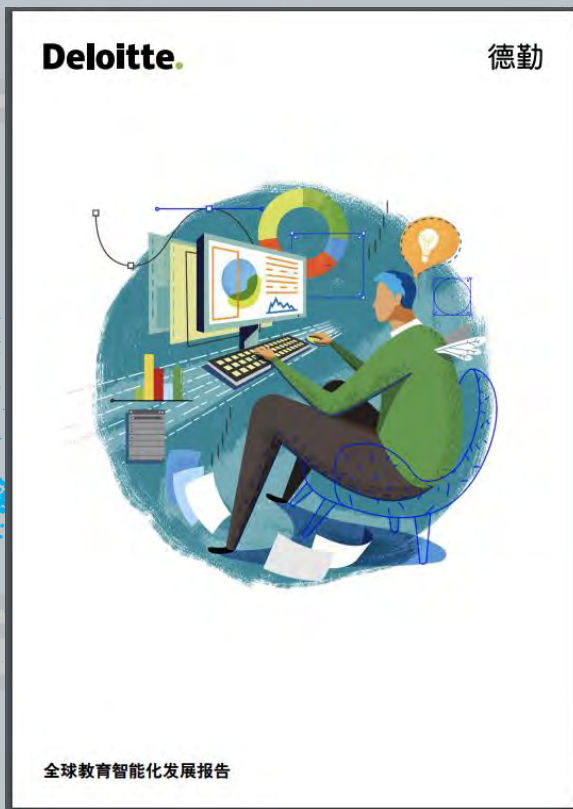


图1-4：国内外人工智能教育应用比较

	国内	国外
发展背景	国内课外付费辅导行业发达，市场前景良好	学生背景复杂，多元化去向明显
技术对比	智适应学习技术在国内积累的数据量稍有落后，处在初步发展阶段	智适应学习技术在美国和欧洲使用时间超过十年，各年龄段都有大量用户使用，累计用户超过1亿
内容运用	智适应教学企业倾向于自己开发教材内容，国内应试教育教材版本众多，需要针对不同的版本开发不同的考点内容，知识点较为新细致且主要针对应试教育	教学内容主要为学校和出版社提供，知识产权明晰，内容体系相对完整
应用场景	K12辅导、英语辅导	K12+、高等教育、职业教育
代表公司	义学教育—松鼠AI、新东方、好未来、作业帮、流利说等	ALEKS, Realizelt, Knewton, Dreambox Learning, Duolingo, Renaissance Learning; Cognitive Learning

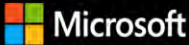
数据来源：德勤研究

图1-6：人工智能教育关键技术示意图




数据来源：德勤研究

Microsoft | AI Products & Services - Approach - AI for Good - Learn - Blog | All Microsoft




AI Robot Challenge

AIY VISION KIT VOICE KIT EDGE TPU MODELS HELP



Do-it-yourself artificial intelligence




Primary AI Education Meanings of AI Education AI Education

AI Textbooks for everyday learning

Introduction to Artificial Intelligence

'Introduction to Artificial Intelligence' converts complex AI knowledge into simple images and texts that are easy for students to understand. The course is presented through a combination of various tasks where students learn AI knowledge by solving the problems. It enables middle school students to learn the knowledge and applications of AI technologies just like any other basic skill.



EMPOWER THE WORLD WITH A.I. 股票代码: 603511

科大讯飞 IFLYTEK

首页 行业方案 个人产品 讯飞超脑 讯飞商城 讯飞伙伴 讯飞开发者 讯飞生态

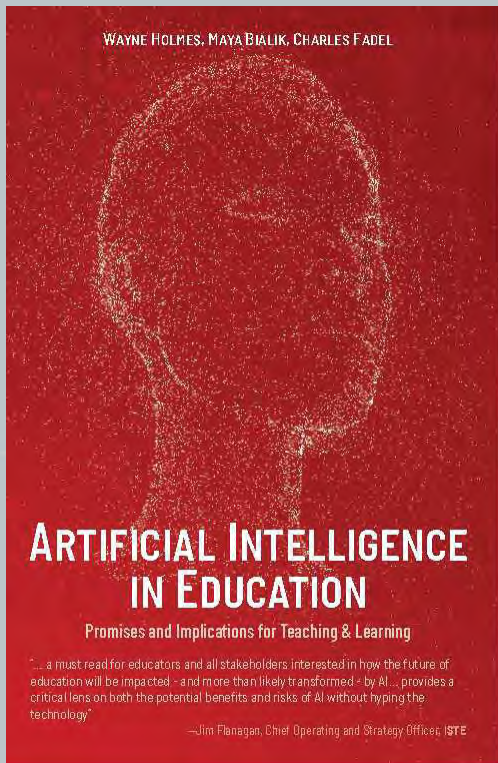
科大讯飞 IFLYTEK

6.1-6.18

和A.I.一起快乐成长

左右左右#尽享好物





Wayne Holmes, Maya Bialik, Charles Fadel March 2019

Artificial Intelligence In Education Promises and Implications for Teaching and Learning

Center for Curriculum Redesign

<https://curriculumredesign.org/our-work/artificial-intelligence-in-education/#1445977470587-f8dc16b8-5787>

10 Roles For Artificial Intelligence In Education

1. Artificial intelligence can **automate basic activities** in education, like grading.
2. **Educational software** can be adapted to student needs.
3. It can point out **places** where courses need to improve.
4. Students could get additional support from **AI tutors**.
5. **AI-driven programs** can give students and educators helpful feedback.
6. It is altering how **we find and interact with information**.
7. It could change the **role of teachers**.
8. AI can make trial-and-error learning **less intimidating**.
9. **Data powered** by AI can change how schools find, teach, and support students.
10. AI may change where **students learn**, **who teaches** them, and how they **acquire basic skills**.

The Age of AI

1. 我不對機器編程，我讓他們自己學習
2. 實現人與機器的合作，先讓 AI 盡可能逼真
3. 對 AI 最大的誤解，是以為有超級智能的存在
4. AI需要真正了解人類，讓其具有同理心
5. 數位分身 — 靈魂機器人 Soul Machines
6. 從某種程度來說，我們都是機器人
7. 人們總害怕被AI取代，但AI反而能提升人類
8. 我們是否該/又如何讓數位角色具有『自由意志』？

<https://youtu.be/mQI-l3qbCZ0>

AI in Education



人臉辨識進入台灣校園
學生隱私誰來把關？

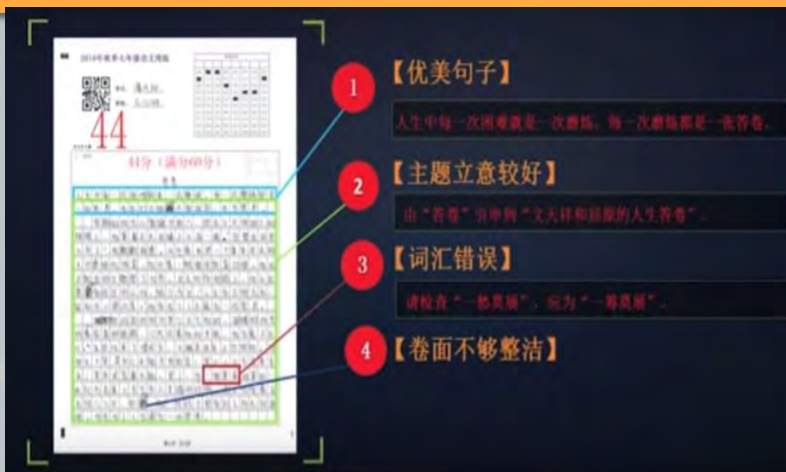
<https://futurecity.cw.com.tw/article/1082>

校園「靠臉點名」正風行 安全
vs監控兩面刃

<https://tw.appledaily.com/news/realtime/20191001/1639700/>



AI in Education



1 【优美句子】
人生中最一次困难就是一次磨炼，每一次磨炼都是一张答卷。

2 【主题立意较好】
由“答卷”引申到“文天祥和屈原的人生答卷”。

3 【词汇错误】
请检查“一教莫展”，应为“一筹莫展”。

4 【卷面不够整洁】



1-6年级横式计算
小猿口算批改准确率超越人类
占每日批改题目数 180%

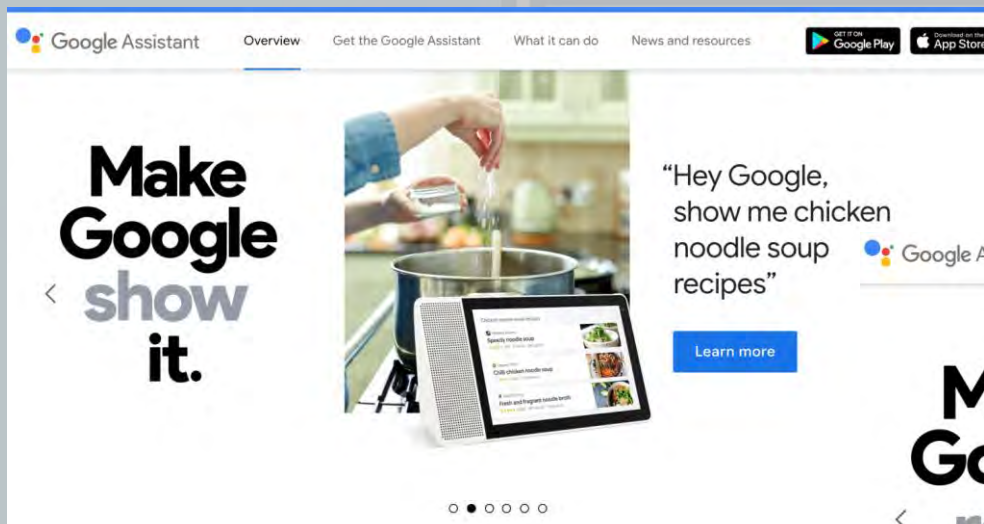
小猿口算
雪球 量子位

准确率99.9%！小猿口算靠AI批改数学题，
误判率仅为人工1/10，计算填空应用题都能批：

<https://xueqiu.com/1097649362/136041042>

AI in Education

Google Assistant



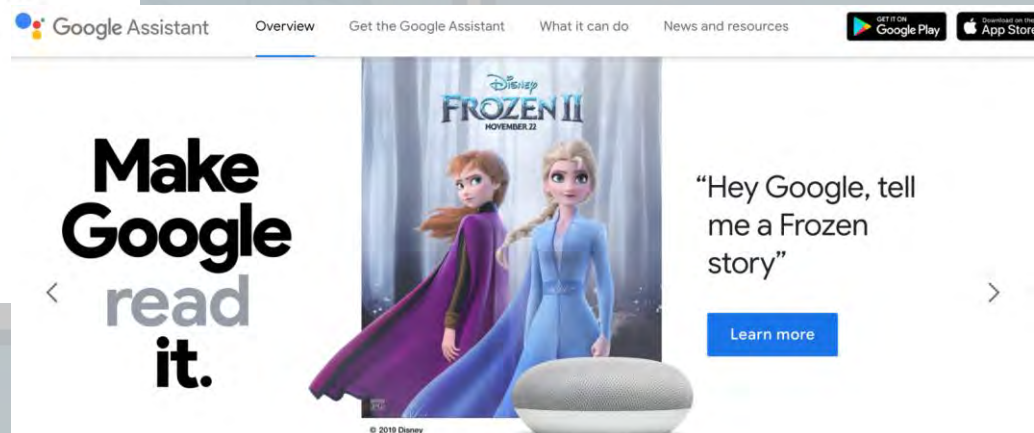
Google Assistant Overview Get the Google Assistant What it can do News and resources [GET IT ON Google Play](#) [Download on the App Store](#)

Make Google show it.

Hey Google, show me chicken noodle soup recipes”

[Learn more](#)

○ ● ○ ○ ○ ○



Google Assistant Overview Get the Google Assistant What it can do News and resources [GET IT ON Google Play](#) [Download on the App Store](#)

Make Google read it.

Hey Google, tell me a Frozen story”

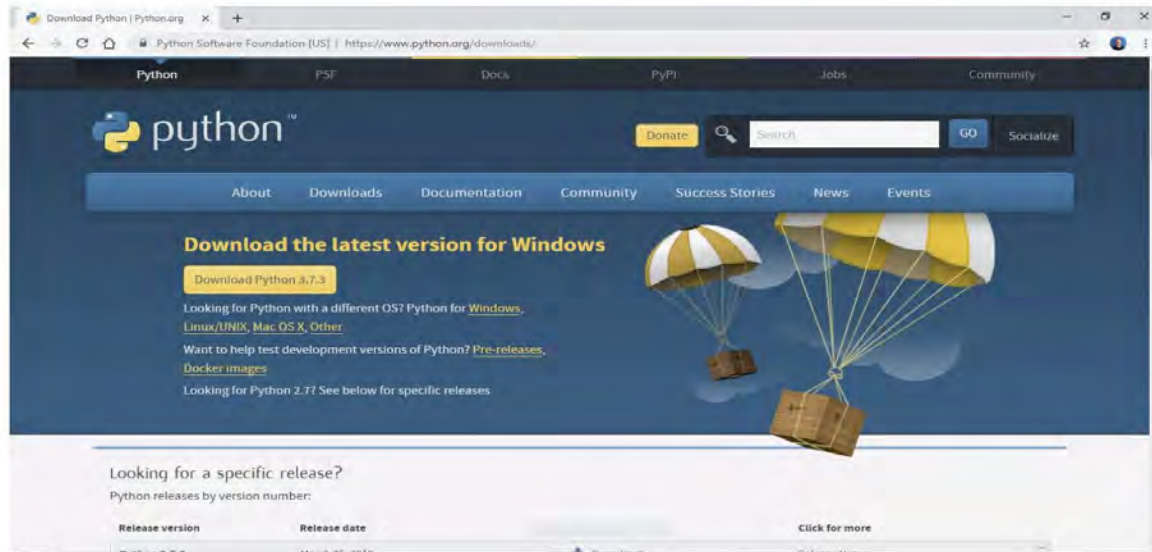
[Learn more](#)

© 2018 Disney

AI in Education

How to Get Google Assistant for PC on Windows

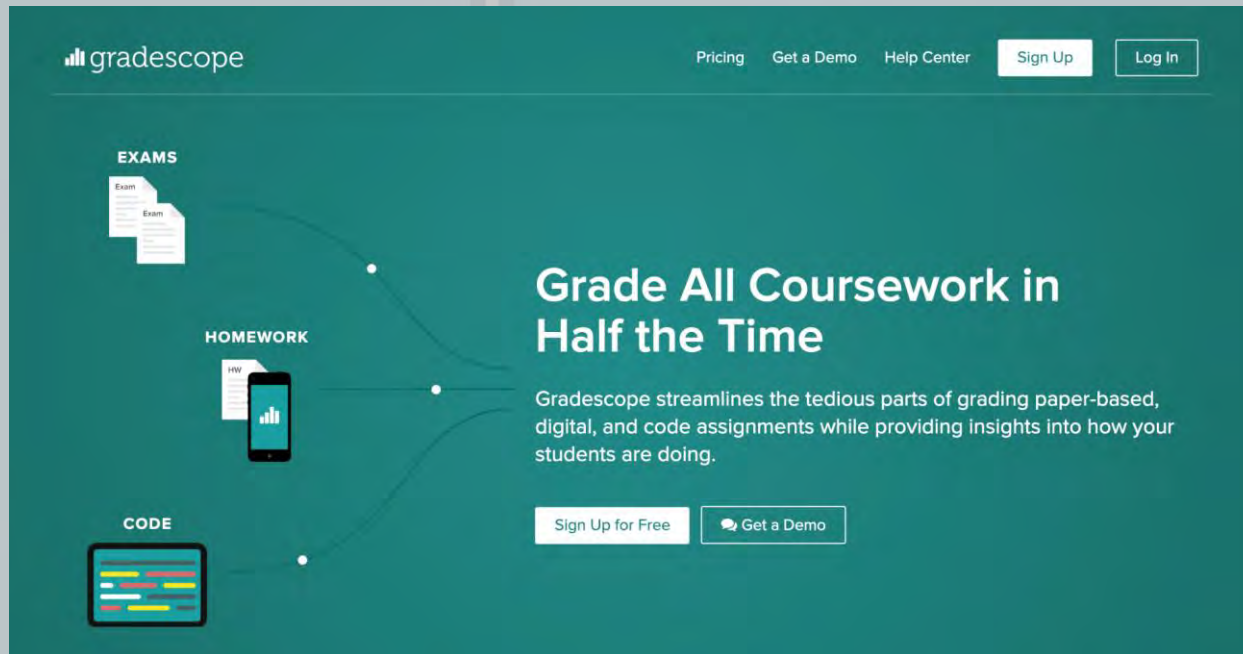
<https://www.lifewire.com/google-assistant-on-windows-4628292>



AI in Education

Gradescope

<https://www.gradescope.com>



The image shows the Gradescope website landing page. The page has a dark teal background. At the top left is the Gradescope logo. At the top right are navigation links: Pricing, Get a Demo, Help Center, Sign Up, and Log In. The main content area features three icons on the left: 'EXAMS' (stack of papers), 'HOMEWORK' (paper and smartphone), and 'CODE' (laptop with code). A large headline reads 'Grade All Coursework in Half the Time'. Below the headline is a paragraph: 'Gradescope streamlines the tedious parts of grading paper-based, digital, and code assignments while providing insights into how your students are doing.' At the bottom are two buttons: 'Sign Up for Free' and 'Get a Demo'.

gradescope

Pricing Get a Demo Help Center Sign Up Log In

EXAMS

Exam Exam

HOMEWORK

HW

CODE

Grade All Coursework in Half the Time

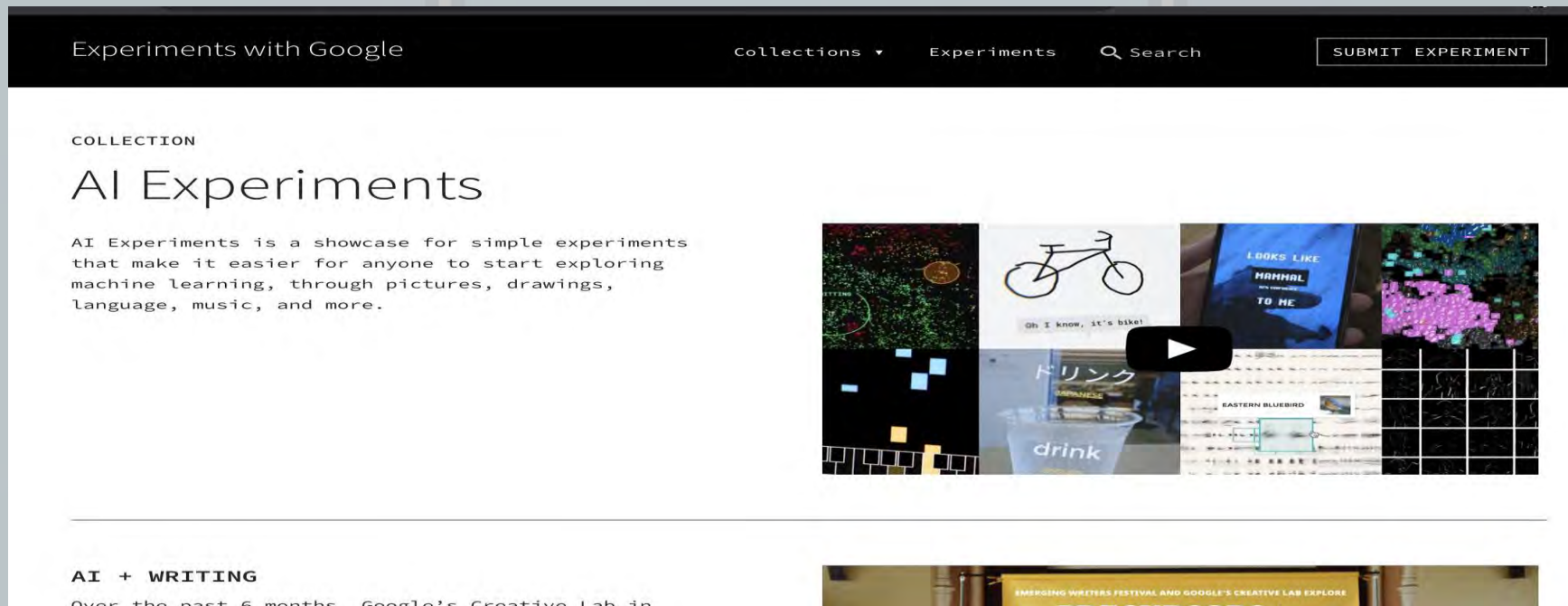
Gradescope streamlines the tedious parts of grading paper-based, digital, and code assignments while providing insights into how your students are doing.

Sign Up for Free Get a Demo

AI in Education

AI Experiments by Google

<https://experiments.withgoogle.com/collection/ai>



The screenshot shows the 'AI Experiments' collection page. At the top, there is a black navigation bar with 'Experiments with Google' on the left, 'Collections' and 'Experiments' in the center, and a search icon and 'Search' on the right. A 'SUBMIT EXPERIMENT' button is located in the top right corner. Below the navigation bar, the word 'COLLECTION' is displayed in a small, spaced-out font, followed by the main title 'AI Experiments' in a large, clean font. A paragraph of text describes the collection as a showcase for simple experiments that make it easier for anyone to start exploring machine learning through pictures, drawings, language, music, and more. Below the text is a grid of six thumbnail images: a night scene with a red line and yellow squares, a drawing of a bicycle with the caption 'Oh I know, it's bikel', a smartphone screen showing 'LOOKS LIKE MAMMAL TO ME', a close-up of pink flowers, a cup of drink with 'drink' written on it, and a grid of images with the caption 'EASTERN BLUEBIRD'. A play button icon is overlaid on the bicycle drawing. At the bottom left, the section 'AI + WRITING' is visible, with the start of a paragraph: 'Over the past 6 months, Google's Creative Lab in'. At the bottom right, there is a partial view of a banner for 'EMERGING WRITERS FESTIVAL AND GOOGLE'S CREATIVE LAB EXPLORE'.

Experiments with Google

Collections Experiments Search

SUBMIT EXPERIMENT

COLLECTION

AI Experiments

AI Experiments is a showcase for simple experiments that make it easier for anyone to start exploring machine learning, through pictures, drawings, language, music, and more.

Oh I know, it's bikel

LOOKS LIKE MAMMAL TO ME

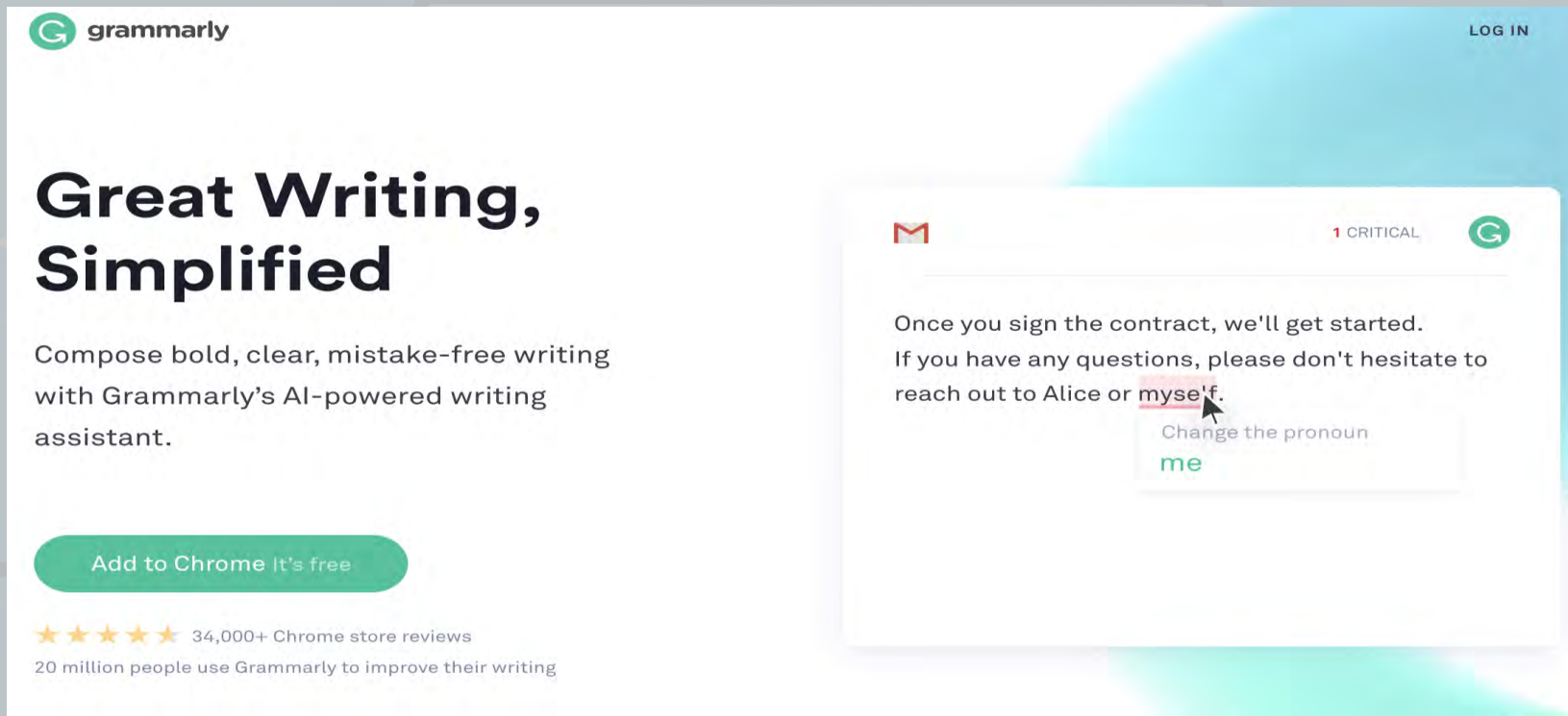
drink

EASTERN BLUEBIRD

EMERGING WRITERS FESTIVAL AND GOOGLE'S CREATIVE LAB EXPLORE

AI in Education

Grammarly <https://www.grammarly.com/>



The image shows a composite of two screenshots. The left screenshot is the Grammarly homepage, featuring the logo, a headline 'Great Writing, Simplified', a description of the AI-powered writing assistant, a 'Add to Chrome' button, and user statistics. The right screenshot is a Gmail interface showing an email with a grammar correction for the word 'myse'f' to 'me'.

grammarly

Great Writing, Simplified

Compose bold, clear, mistake-free writing with Grammarly's AI-powered writing assistant.

[Add to Chrome](#) It's free

★★★★★ 34,000+ Chrome store reviews
20 million people use Grammarly to improve their writing

LOG IN

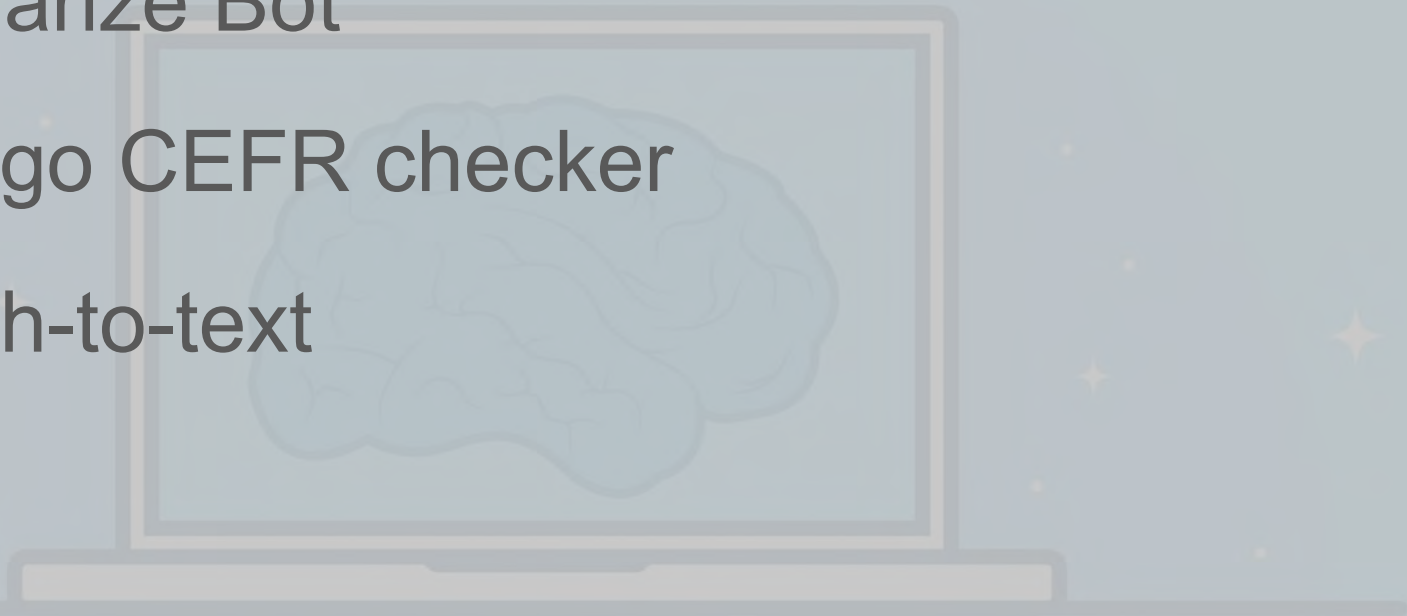
M 1 CRITICAL **G**

Once you sign the contract, we'll get started.
If you have any questions, please don't hesitate to reach out to Alice or myse'f.

Change the pronoun
me

Examples for Language

- Summarize Bot
- Duolingo CEFR checker
- Speech-to-text



Summarize Bot

- https://www.summarizebot.com/text_api_demo.html



API for Business

Products

Technology

Pricing

Demo

Documentation

Co

Summarization

Sentiment Analysis

Linguistic Analysis

Intent Analysis

Short Text Language Detection

Fake News Detection

Article Extraction

News Aggregation

Scientific Articles Search

<https://www.reuters.com/article/us-tesla-musk-sec/teslas-musk-mocks-sec-as-judge-demands-they-justify-fraud-settlement-idL>

Summary Size: 20%



General Domain



Summarize

Duolingo CEFR checker

- <https://cefr.duolingo.com/>

duolingo
CEFR checker

[About Us](#) [Duolingo AI](#) [Work with Us](#)

This tool determines whether texts are appropriate for beginner, intermediate, or advanced learners of English or Spanish. It works by analyzing vocabulary and highlighting words by their reading proficiency level according to the [Common European Framework of Reference \(CEFR\)](#). Duolingo uses interactive tools like this one to help us revise content (e.g., [Podcasts](#) and [Stories](#)) for particular levels, and we're making this version available to language educators and the public. You can learn more about our AI-driven approach to this in [this blog post](#).

English | 921 tokens | 400 types | **LEVEL B2**

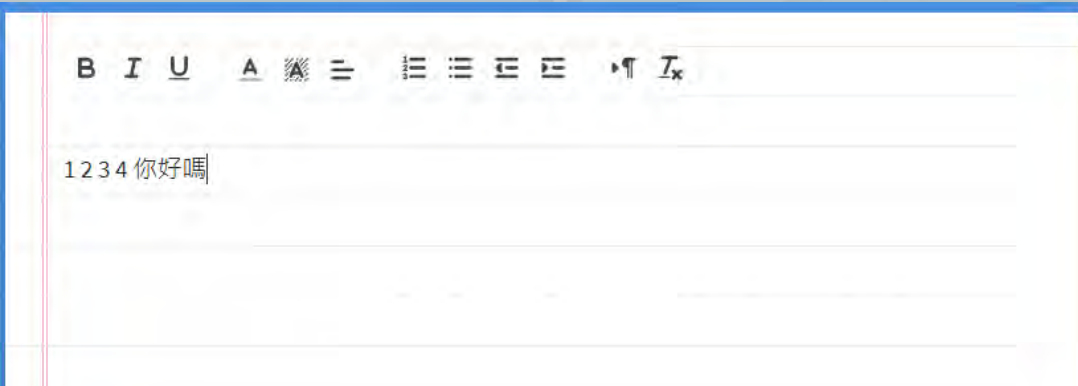
manner in which aircrew had been forced into pay cuts or job losses. The Hong Kong Aircrew Officers Association (HKAOA) and flight attendants' counterparts had sought to overturn a decision by the city's flag carrier to overhaul pay and conditions, which came on top of 5,900 job cuts, and the closing of regional carrier Cathay Dragon. Cathay pilots arriving at Hong Kong's airport. Photo: [Winson Wong](#) Cathay pilots arriving at Hong Kong's airport. Photo: [Winson Wong](#) "We are very grateful that a majority of our pilots and cabin crew have already signed up to the new conditions of service," the airline said, without specifying a number. "We would like each and every one of our pilots and cabin crew to join us and be part of Cathay Pacific's future." Chris Beebe, general secretary of HKAOA, said if the airline's comments







English Words Predicted CEFR

	A1 40% (160)
	A2 19% (75)
	B1 15% (61)
	B2 19% (74)
	C 6% (22)
	? 2% (8)

Speech-to-Text (English / Chinese)

- <http://dictation.io/>



B I U A A =      

1234 你好嗎



中文 (香港) 

Click the microphone icon and speak 

Speech-to-Text (English / Chinese)

- <https://speechnotes.co/yue/>

港式粵語筆記簿

GET IT ON
Google Play

About (English) 文字转语音 音频和视频文件的自动转录

標題： Note_3, 30 Oct 2020

English, US

港式粵語筆記簿 使用說明

Cantonese version is customized and enhanced by Patrick 劉肇庭, at Taipei City

- 按右上方的 啟動或暫停 Speechnotes 語音輸入文字，按右方的符號鍵插入標點符號。
- 按上方的【常用廣東字】顯示選項鍵，即「咁」、「嘅」、「啲」、「啲」、「㗎」、「㗎」、「㗎」、「吓」、「擺」，再按一下選項鍵把它插入內文。
- 你也可以根據廣東字的發音按上方的 A 至 Z 鍵，例如：
 - 按 D 會出現「咁」、「啲」、「抖」、「嘞」、「兜」等選項
 - 按 H 會出現「吓」、「慳」、「喺」、「凹」、「哇」等選項
- 你也可以用傳統 o+ 的方式輸入廣東字，例如：
 - 輸入「o的」自動轉 → 「啲」
 - 輸入「o地」自動轉 → 「咁」
 - 輸入「o既」自動轉 → 「嘅」

標點符號
、 、 、 ……
: ; ? !
() 「 」
『 』 【 】

開新行 開新段

修整標點及空白

粵語字詞參考

- W 粵語用辭
- W 粵語本字表
- W 各區用字習慣
- W 粵語審音配詞字庫

NLP for Chinese

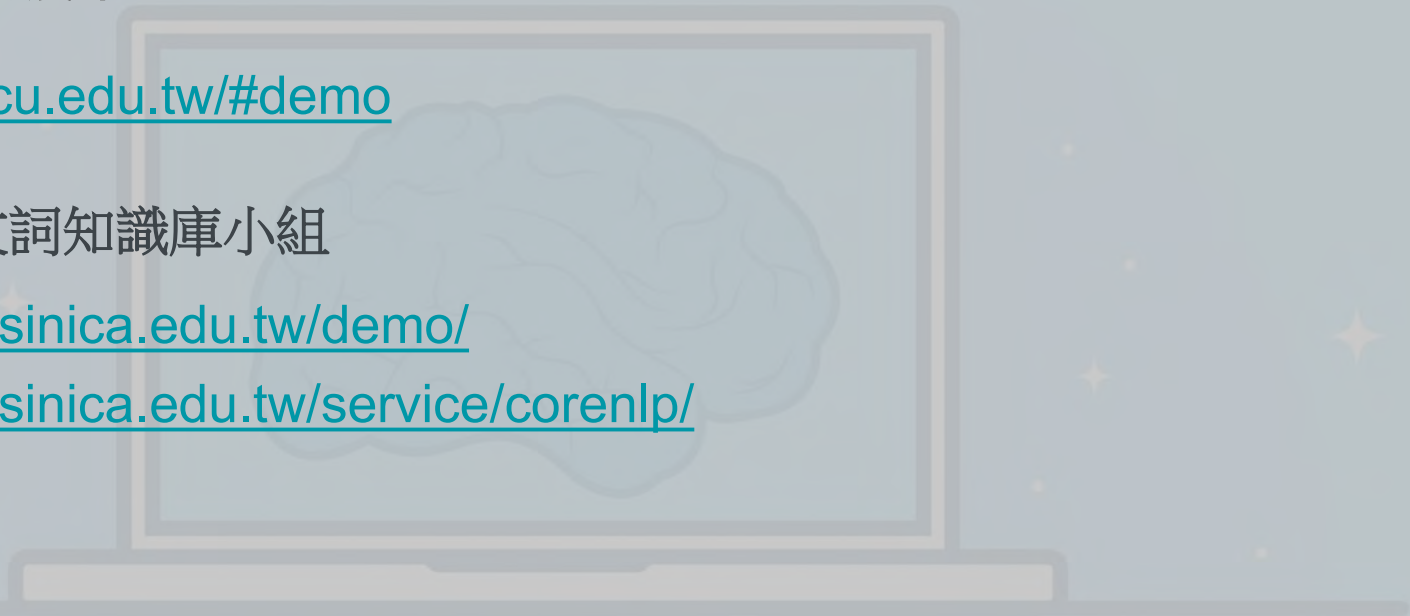
NCU NLP 系統展示

<http://nlp.ee.ncu.edu.tw/#demo>

CKIP Lab 中文詞知識庫小組

<https://ckip.iis.sinica.edu.tw/demo/>

<https://ckip.iis.sinica.edu.tw/service/corenlp/>



AI Education in Hong Kong

Curriculum Matrix



✓ Beginner Unit (BU)

✓ Intermediate Unit (IU)

✓ Advanced Unit (AU)

Modules \ Teaching Units (✓)	Awareness	Ethics and Impact	Knowledge	Interactions	Empowerment
1. Introduction to AI	✓	✓	✓	-	-
2. Fundamentals of AI	✓	✓	✓	✓	-
3. "See the World"	✓	✓	✓	✓	✓
4. "Hear"	✓	✓	✓	✓	✓
5. "Speak"	✓	✓	✓	✓	✓
6. "Read"	✓	✓	✓	✓	✓
7. "AI Reasoning"	✓	✓	✓	✓	✓
8. "Simulate"	✓	✓	✓	✓	✓
9. "Think and Create"	✓	✓	✓	✓	✓
10. Societal Good, Social Impact and Challenges of AI	✓	✓	✓	✓	✓
11. AI and Ethics	✓	✓	✓	-	✓
12. AI and Future of Work	✓	✓	✓	-	✓

12 Chapters with 55 Modules divided into three levels to allow for flexible teaching by secondary schools

Text-to-Speech (TTS)

Google

<https://hiddentao.github.io/google-tts/>

Demo of Google Text-to-Speech API

Language: ▾

Text:

中文

Play!

Player: HTML5 Audio

Reading Comprehension

<https://demo.allennlp.org/>

AllenNLP

Answer a question

Reading Comprehension

Visual Question Answering

Annotate a sentence

Named Entity Recognition

Open Information Extraction

Sentiment Analysis

Dependency Parsing

Constituency Parsing

Semantic Role Labeling

This model is like BiDAF but uses ELMo embeddings instead of GloVe.

Demo Usage

Enter text or

Passage

A reusable launch system (RLS, or reusable launch vehicle, RLV) is a launch system which is capable of launching a payload into space more than once. This contrasts with expendable launch systems, where each launch vehicle is launched once and then discarded. No completely reusable orbital launch system has ever been created. Two partially reusable launch systems were developed, the Space Shuttle and Falcon 9. The Space Shuttle was partially reusable: the

Question

How many partially reusable launch systems were developed?

Run >

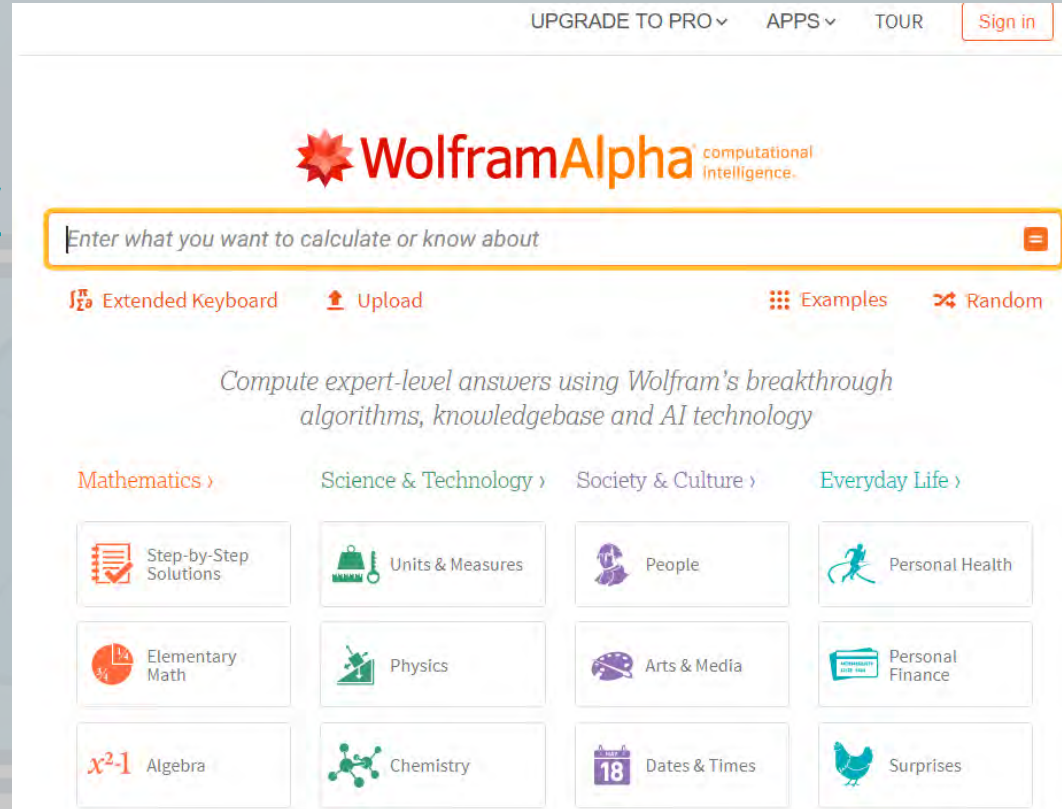
Answer

Two

Passage Context

Mathematics

<https://www.wolframalpha.com/>



The screenshot shows the WolframAlpha website interface. At the top right, there are links for "UPGRADE TO PRO", "APPS", "TOUR", and a "Sign in" button. The main header features the WolframAlpha logo with the tagline "computational intelligence". Below the logo is a search bar with the placeholder text "Enter what you want to calculate or know about". Under the search bar, there are icons for "Extended Keyboard" and "Upload", and links for "Examples" and "Random". The main content area contains the text "Compute expert-level answers using Wolfram's breakthrough algorithms, knowledgebase and AI technology". Below this, there are four category tabs: "Mathematics", "Science & Technology", "Society & Culture", and "Everyday Life". Each tab is followed by a grid of icons representing various subjects: Step-by-Step Solutions, Units & Measures, People, Personal Health, Elementary Math, Physics, Arts & Media, Personal Finance, Algebra, Chemistry, Dates & Times, and Surprises.

UPGRADE TO PRO ▾ APPS ▾ TOUR [Sign in](#)

WolframAlpha computational intelligence.

Enter what you want to calculate or know about

Extended Keyboard Upload Examples Random

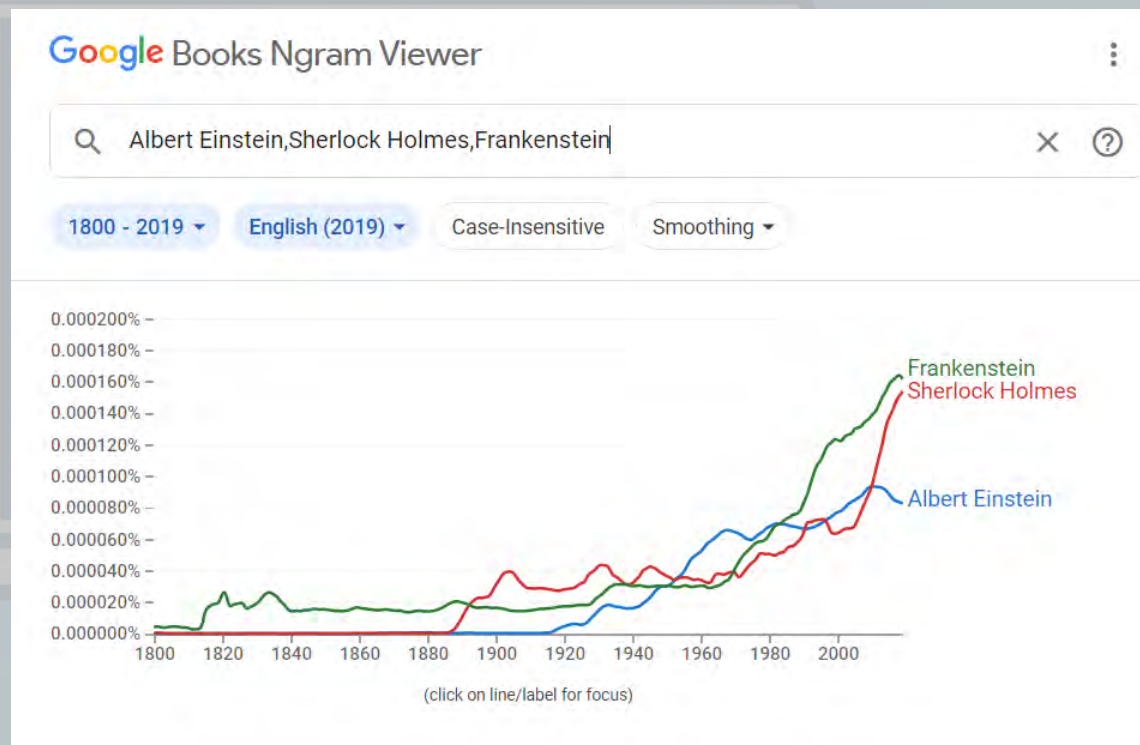
Compute expert-level answers using Wolfram's breakthrough algorithms, knowledgebase and AI technology

[Mathematics](#) ▾ [Science & Technology](#) ▾ [Society & Culture](#) ▾ [Everyday Life](#) ▾

Step-by-Step Solutions	Units & Measures	People	Personal Health
Elementary Math	Physics	Arts & Media	Personal Finance
Algebra	Chemistry	Dates & Times	Surprises

N-grams Viewer (Google)

- <https://books.google.com/ngrams>



Google “Talk-to-Books”

<https://books.google.com/talktobooks/?suggestions=18>

The screenshot shows the Google Talk-to-Books interface. At the top, there is a search bar with the text "What smell brings back great memories?" and a blue "Go!" button. Below the search bar, the results are titled "Passages from books" with a "Filters" button on the right. The first result is a passage from the book "I Love a Cop" by Ellen Kirschman. The passage discusses how the smell of forsythia can transport someone back to their childhood summers in upstate New York. To the right of the passage is a small image of the book cover. The second result is a passage from "Improve Your Eyesight Naturally" by Leo Angert, discussing how the smell of freshly baked bread can trigger childhood memories. To the right of this passage is a small image of the book cover.

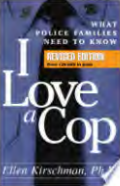
What smell brings back great memories? Go!

Passages from books Filters


Showing results from all categories

¶¶ The biochemistry of trauma is evident in your sense of smell, which so easily brings up old memories. **The smell of forsythia instantly transports me back to my childhood summers in upstate New York.** So an officer, investigating a gruesome homicide in an apartment next door to where someone is baking cookies, may long... ¶¶ [\(view in book\)](#)

from I Love a Cop, Revised Edition: What Police Families Need to Know
by Ellen Kirschman
Guilford Publications, 2006 • [Medicine and Health](#) • [Philosophy and Self-help](#)



¶¶ For example, for some people the smell of freshly baked bread triggers childhood memories. **Freshly cut grass is another common smell that evokes memories.** A certain perfume worn by your mother or grandmother is another direct link to memories. ¶¶ [\(view in book\)](#)



from Improve Your Eyesight Naturally: Easy, Effective, See Results Quickly

CENTURY, an AI-powered teaching and learning platform

<https://www.century.tech/>



Register for a webinar


Supercharge your teaching

CENTURY is the tried and tested intelligent intervention tool that combines learning science, AI and neuroscience.

- Identifies gaps
- Addresses misconceptions
- Supports teacher interventions

Schools/Colleges: Register for a webinar


Parents: Buy a subscription




Teachable Machine (Google)

<https://teachablemachine.withgoogle.com/train>

☰ **Teachable Machine**

 Open an existing project from Drive.

 Open an existing project from a file.


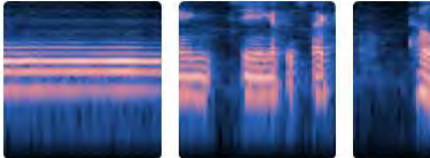


Image Project

Teach based on images, from files or your webcam.



Audio Project

Teach based on one-second-long sounds, from files or your microphone.

WordCheck AI (Hong Kong)

新增默書

名稱:

類型:

默書日期:

* 以上內容必須填寫

正式默書: **是：不可重覆默書**
否：可重覆「開始默」

限時作答: 分鐘

默書內容:

預設為默書內容
標點及分行自動設定為分句

- ☰【章節】：只讀不默。
- ☰☰【題號】：只讀不默。
- ☰☰☰【描述】：只讀不默。
- ☒☰【背默】：只默不讀。
- ☰☰☰【閱讀】：不默不讀。
- ☒☰☰☰【清除格式】

1 抱頭鼠竄
2 雞鳴狗盜
3 千軍萬馬
4 亡羊補牢
5 杯弓蛇影

先以滑鼠選取需要套用功能的文字
按下所選取的功能

一鍵清除

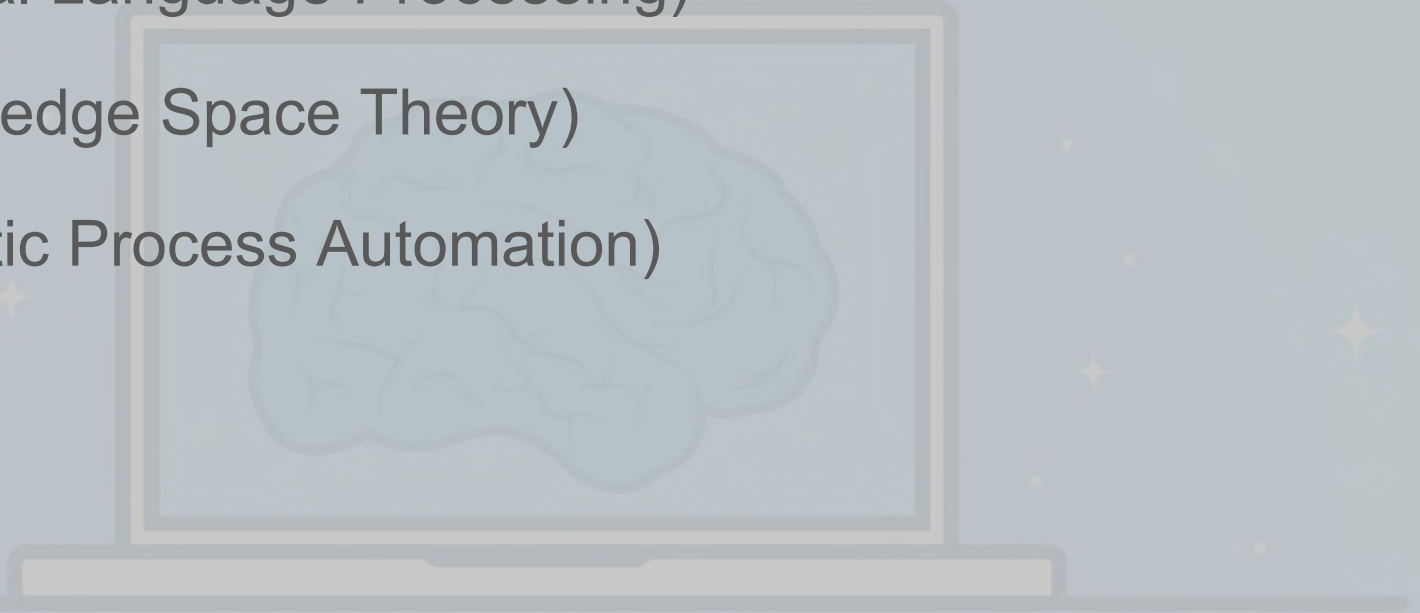
確定 取消

Keywords for AI related to Education

NLP (Natural Language Processing)

KST (Knowledge Space Theory)

RPA (Robotic Process Automation)



Text to Speech (IBM Watson)

- <https://speech-to-text-demo.ng.bluemix.net/>

Transcribe Audio

- Use your microphone to record audio. For best results, use broadband models for microphone input.
- Upload pre-recorded audio (.mp3, .mpeg, .wav, .flac, or .opus only).
- Play one of the sample audio files.*

*Both US English broadband sample audio files are covered under the Creative Commons license.

The returned result includes the recognized text, word alternatives, and spotted keywords. Some models can detect multiple speakers; this may slow down performance.

Voice Model:

US English broadband model (16KHz) ▼

Keywords to spot:

IBM,admired,AI,transformations,cognitive,Artificial Intelligence,dz

Detect multiple speakers



Record Audio



Upload Audio File



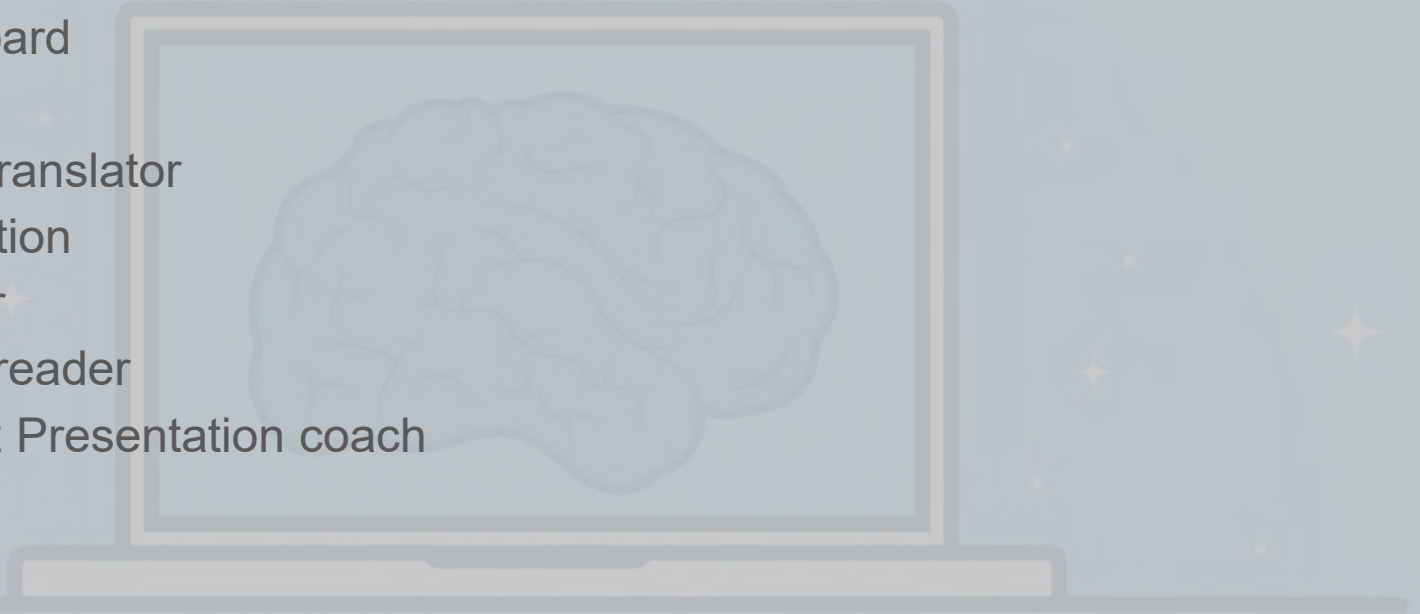
Play Sample 1



Play Sample 2

Microsoft

- Microsoft Word Online
- Swift keyboard
- Office lens
- Microsoft Translator
- Ink to equation
- Math solver
- Immersive reader
- PowerPoint Presentation coach



Other examples:

- IBM
- <https://speech-to-text-demo.ng.bluemix.net/>
- <https://subanana.com/>

- LALAL.AI



Google

- Google Translate
- Google Lens
- Google即時轉錄
- Read Along by Google (Diya)

- Extension (Chrome):

- Grammarly
- OneLook Thesaurus



廣東話字幕


- <https://subanana.com/>

HOT! 為協助受是次疫情影響嘅各行各業，字幕工具現時免費開放使用，方便大家製作影片、線上課程或為線上會議轉錄筆記。

拍 Vlog，開直播 字幕，唔使再自己打

你拍片，我幫你配字幕。
你嘅才華，應該用返嚟拍片度。

[上傳影片](#)



與字幕嘅 Subanana 對話
一般回覆時間：幾小時內

[登入 Messenger](#)

如果選擇登入，字幕嘅 Subanana 將看到你來自哪個網站，以及你在 Facebook 個人檔案公開的資訊。

唔使入電郵，唔使入信用卡，唔使安裝





What is Azure?

AI Services in Azure

Bringing the best of AI to Azure and the best of Azure to AI



Pre-Built AI
Azure Cognitive Services



Conversational AI
Azure Bot Service



Custom AI
Azure Machine Learning

Cognitive Services APIs

Cognitive Services Lab

Speech



Custom Speech

Speech API

Translator Speech

Text Analytics

Unified Speech

Speaker Recognition

Bing Speech

Text to speech

Language



Translator Text

Language Understanding (LUIS)

Anomaly Detector

Decisions



Personalize

Content Moderator

Search



Bing Visual Search

Bing Entity Search

Bing Custom Search

Bing Autosuggest

Bing Statistics add-in

Bing Search

Vision



Video Indexer

Computer Vision

Custom Vision

Emotion

Face

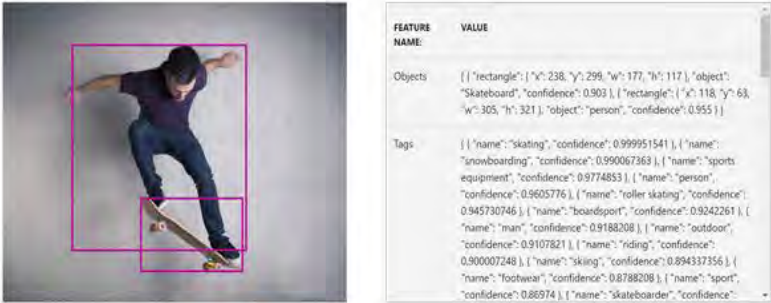
Computer Vision

- Extract rich information from images to categorize and process visual data


Let's try:

<https://azure.microsoft.com/en-us/services/cognitive-services/computer-vision/>

See it in action

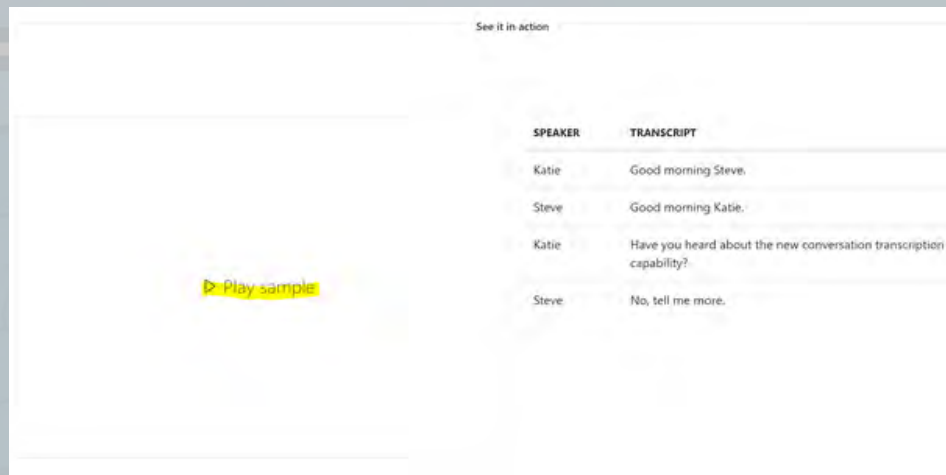


```
{}  
  "objects": [  
    {  
      "rectangle": {  
        "x": 238, "y": 299, "w": 177, "h": 117  
      },  
      "object": "skateboard",  
      "confidence": 0.903  
    },  
    {  
      "rectangle": {  
        "x": 118, "y": 63, "w": 305, "h": 321  
      },  
      "object": "person",  
      "confidence": 0.955  
    }  
  ],  
  "tags": [  
    {  
      "name": "skating",  
      "confidence": 0.999951541  
    },  
    {  
      "name": "snowboarding",  
      "confidence": 0.990067363  
    },  
    {  
      "name": "sports equipment",  
      "confidence": 0.9774853  
    },  
    {  
      "name": "person",  
      "confidence": 0.9605776  
    },  
    {  
      "name": "roller skating",  
      "confidence": 0.945790746  
    },  
    {  
      "name": "boardsport",  
      "confidence": 0.9242261  
    },  
    {  
      "name": "man",  
      "confidence": 0.9188208  
    },  
    {  
      "name": "outdoor",  
      "confidence": 0.9107821  
    },  
    {  
      "name": "riding",  
      "confidence": 0.90007248  
    },  
    {  
      "name": "skiing",  
      "confidence": 0.894337356  
    },  
    {  
      "name": "foosball",  
      "confidence": 0.8788208  
    },  
    {  
      "name": "sport",  
      "confidence": 0.86974  
    },  
    {  
      "name": "skateboarder",  
      "confidence": 0.86974  
    }  
  ]  
}
```

Image URL:  Error

Speech to Text

- Swiftly convert audio to text for natural responsiveness



See it in action

▶ Play sample

SPEAKER	TRANSCRIPT
Katie	Good morning Steve.
Steve	Good morning Katie.
Katie	Have you heard about the new conversation transcription capability?
Steve	No, tell me more.

Let's try:

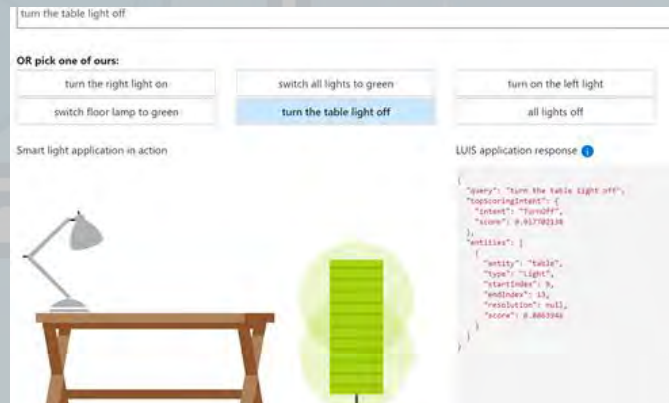
<https://azure.microsoft.com/en-us/services/cognitive-services/speech-to-text/>

Language understanding

-A machine learning-based service to build natural language understanding into apps, bots, and IoT devices

Let's try:

<https://azure.microsoft.com/en-us/services/cognitive-services/language-understanding-intelligent-service/>




turn the table light off

OR pick one of ours:

turn the right light on	switch all lights to green	turn on the left light
switch floor lamp to green	turn the table light off	all lights off

Smart light application in action

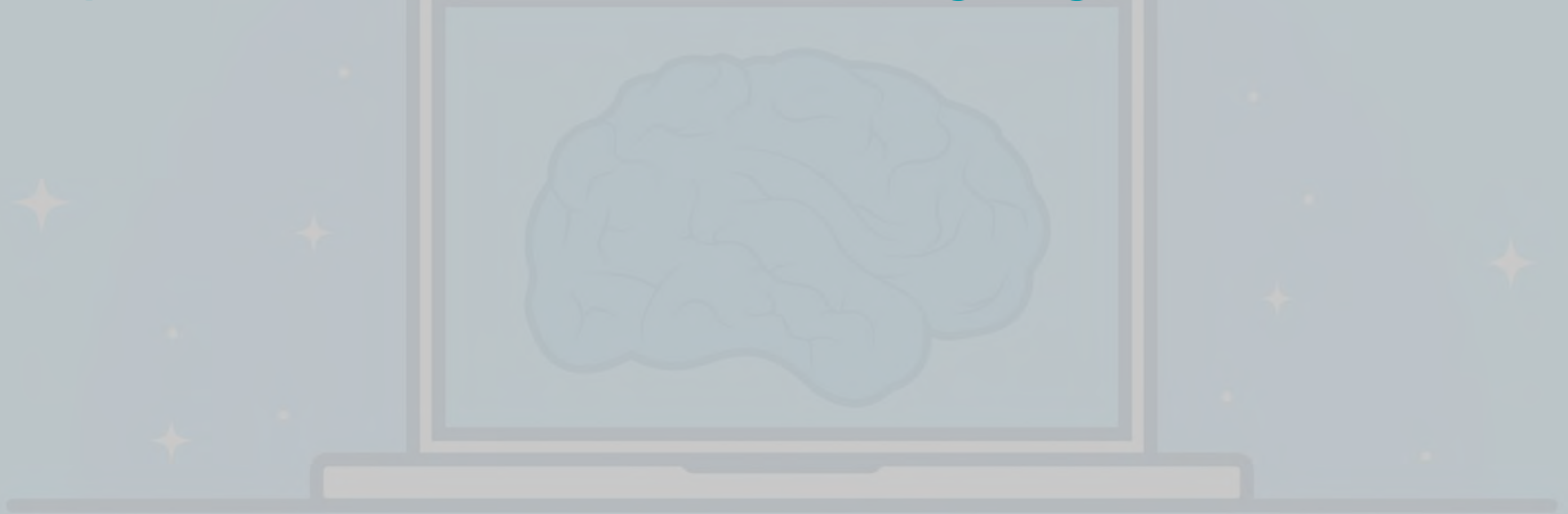


LUIS application response

```
{
  "query": "turn the table light off",
  "topScoringIntents": [
    {
      "intent": "TurnOff",
      "score": 0.93792338
    }
  ],
  "entities": [
    {
      "entity": "table",
      "type": "light",
      "startIndex": 0,
      "endIndex": 14,
      "resubstitute": null,
      "score": 0.883350
    }
  ]
}
```

Google Teachable Machine

<https://teachablemachine.withgoogle.com/>



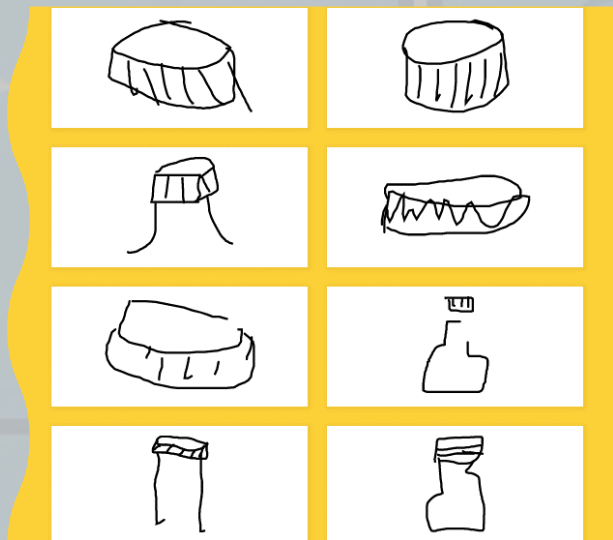
<https://quickdraw.withgoogle.com/>



類神經網路能學會辨識塗鴉嗎？

只要將你的繪圖加到[全世界最大的塗鴉資料集](#)，就能協助訓練這個類神經網路。這個資料集的內容會公開分享，為機器學習研究提供參考資料。

- 類神經網路是如何掌握瓶蓋的外觀模樣？
- 它會參考其他人畫的所有範例，並從中學習。



請畫出 瓶蓋

這是你的塗鴉，而類神經網路能辨識出你畫了什麼。

類神經網路認為你的塗鴉也像這些東西：

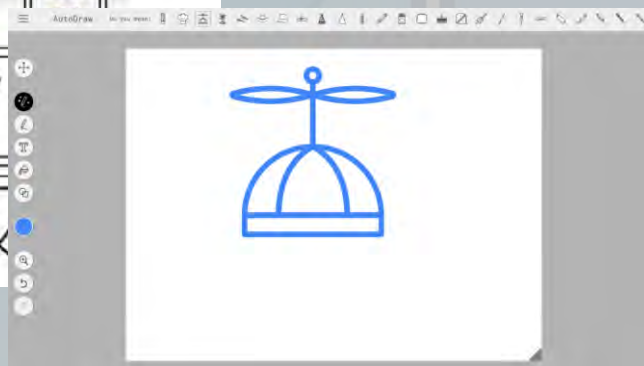
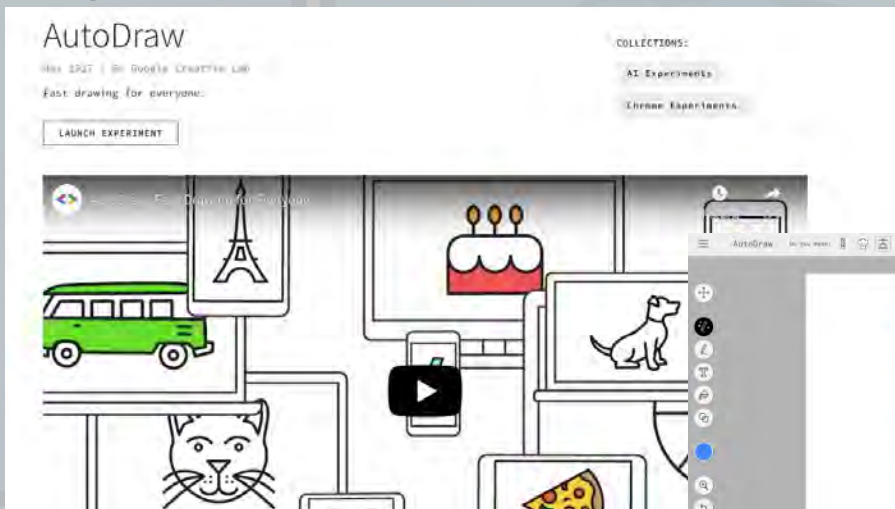
正確的比例結果 瓶蓋	第 2 接近的答案 鬚子	第 3 接近的答案 鋼琴
A hand-drawn bottle cap with a wavy top edge.	A hand-drawn comb with a wavy top edge.	A hand-drawn piano keyboard with vertical lines.



機器學習體驗 : AutoDraw


手繪圖自動變靚靚

<https://www.autodraw.com/>





訓練模型 : Teachable Machine







[About](#) [FAQ](#) [Get Started](#)

Teachable Machine

Train a computer to recognize your own images, sounds, & poses.

A fast, easy way to create machine learning models for your sites, apps, and more – no expertise or coding required.

[Get Started](#)

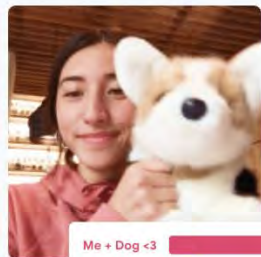
     

Tree	<div style="width: 100%;"><div style="width: 100%;"></div></div>	100%
Wings	<div style="width: 0%;"></div>	



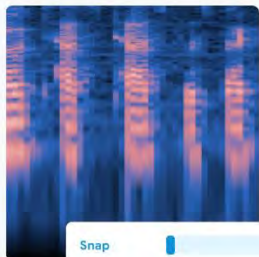
訓練模型 : Teachable Machine

- Teachable Machine 是一個網頁版的簡單Machine Training 體驗網頁。
- 支援圖像、聲音及動作識別



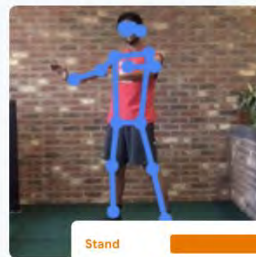
Images

Teach a model to classify images using files or your webcam.



Sounds

Teach a model to classify audio by recording short sound samples. (WAV/MP3/etc file support coming soon.)



Poses

Teach a model to classify body positions using files or striking poses in your webcam.

- 現在試試用來作人像識別<https://teachablemachine.withgoogle.com/>



訓練模型 : Teachable Machine

分辨手寫文字紙幣 及 樣貌 辨析

The screenshot displays the Teachable Machine interface, which is used for training machine learning models. It is divided into several sections:

- Training Section:** Shows three classes of training data:
 - Class 1:** 87 Image Samples, featuring a potted plant.
 - Class 2:** 125 Image Samples, featuring a \$20 bill.
 - Class 3:** 45 Image Samples, featuring a person wearing a face mask.
- Training Status:** A 'Model Trained' button is visible, indicating the model is ready for use.
- Preview Section:** Shows the model's output for different inputs:
 - Input 1:** A potted plant. The output shows 'plant' with a 100% confidence score.
 - Input 2:** A \$20 bill. The output shows '\$20' with a 99% confidence score.
 - Input 3:** A person wearing a face mask. The output shows 'Me' with a 100% confidence score.
- Handwritten Digit Recognition:** Two additional preview windows show the model's ability to recognize handwritten digits:
 - Input 4:** A handwritten digit '3'. The output shows '3' with a 99% confidence score.
 - Input 5:** A handwritten digit '2'. The output shows '2' with a 99% confidence score.



Voice Kit

Do-it-yourself intelligent speaker. Experiment with voice recognition and the Google Assistant.

- <https://aiyprojects.withgoogle.com/voice/>

The AIY Voice Kit from Google lets you build your own natural language processor and connect it to the Google Assistant or Cloud Speech-to-Text service, allowing you to ask questions and issue voice commands to your programs. All of this fits in a handy little cardboard cube, powered by a Raspberry Pi.



Kit Version



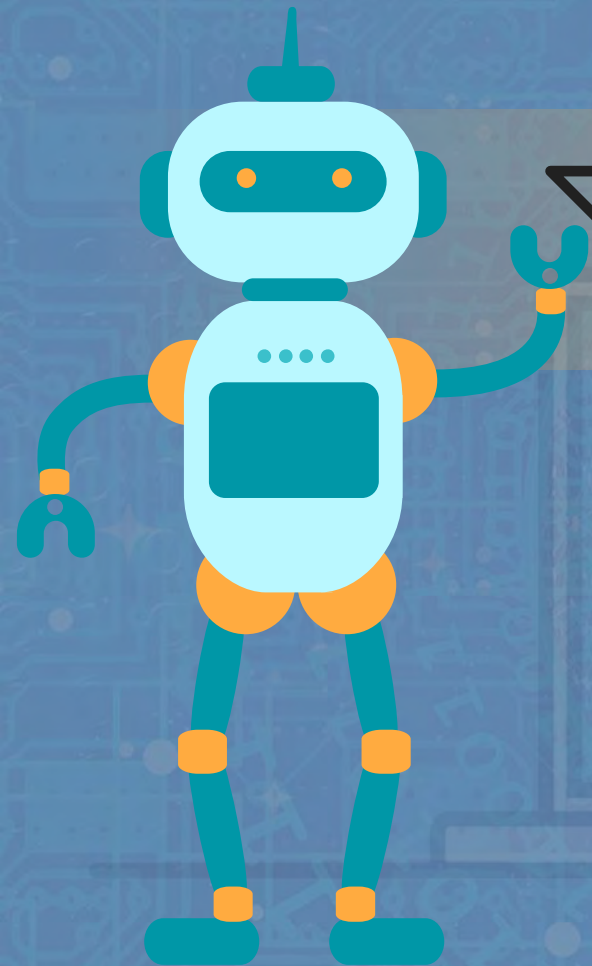
Version 1

<https://aiyprojects.withgoogle.com/voice/>



Version 2

<https://aiyprojects.withgoogle.com/voice-v1/>



System
Image

<https://github.com/google/aiyprojects-raspbian/releases>

[AIY Kits Release 2018-11-16](#) (recommend)

Latest release

v20191113
bc3a748

AIY Kits Release 2019-11-13

dmitriykovalev released this on 14 Nov 2019 · 2 commits to aiyprojects since this release

SD card image that supports both [AIY Voice Kit](#) and [AIY Vision Kit](#).

Assets 5

aiyprojects-2019-11-13.img.xz	1.05 GB
aiyprojects-2019-11-13.img.xz.md5	64 Bytes
aiyprojects-2019-11-13.img.xz.sha256	96 Bytes
Source code (zip)	
Source code (tar.gz)	

v20181116
5c74ce5

AIY Kits Release 2018-11-16

dmitriykovalev released this on 17 Nov 2018 · 31 commits to aiyprojects since this release

SD card image that supports both [AIY Voice Kit](#) and [AIY Vision Kit](#).

MD5: 2ad73c6501ce504350054f1357e67713

Assets 3



Google API Console

Artificial Intelligence

<https://console.developers.google.com>

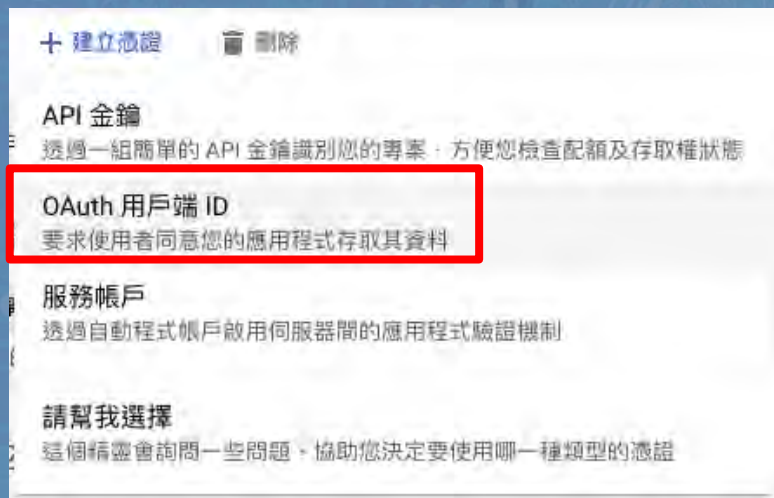


Get Credential

S

0
1

Google Assistant (assistant.json)



+ 建立憑證 刪除

API 金鑰
透過一組簡單的 API 金鑰識別您的專案，方便您檢查配額及存取權狀態

OAuth 用戶端 ID
要求使用者同意您的應用程式存取其資料

服務帳戶
透過自動程式帳戶啟用伺服器間的應用程式驗證機制

請幫我選擇
這個精靈會詢問一些問題，協助您決定要使用哪一種類型的憑證

0
2

Cloud Speech API (cloud_speech.json)



+ 建立憑證 刪除

API 金鑰
透過一組簡單的 API 金鑰識別您的專案，方便您檢查配額及存取權狀態

OAuth 用戶端 ID
要求使用者同意您的應用程式存取其資料

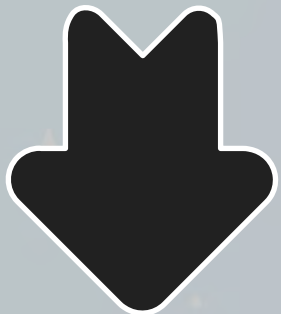
服務帳戶
透過自動程式帳戶啟用伺服器間的應用程式驗證機制

請幫我選擇
這個精靈會詢問一些問題，協助您決定要使用哪一種類型的憑證



Google Assistant (assistant.json)

01



← 建立 OAuth 用戶端 ID

如果應用程式使用 OAuth 2.0 通訊協定來呼叫 Google API，您可以使用 OAuth 2.0 用戶端 ID 來產生存取憑證。憑證中含有不重複的識別碼。請參閱設定 OAuth 2.0 瞭解詳情。

應用程式類型

- 網路應用程式
 - Android [瞭解詳情](#)
 - Chrome 應用程式 [瞭解詳情](#)
 - IOS [瞭解詳情](#)
- 其他

名稱

02

OAuth 2.0 用戶端 ID

<input type="checkbox"/>	名稱	建立日期 ↓	類型	用戶端編號	所有服務的用量 (過去 30 天內) ?	
<input type="checkbox"/>	AIY Voice Kit assistant	2019年12月6日	其他	562338108941-t2r5...	69	



Cloud Speech API (cloud_speech.json)

01

建立服務帳戶

1 服務帳戶詳細資料 2 將專案存取權授予這個服務帳戶 (選用) 3 將這個服務帳戶的存取權授予使用者 (選用)

服務帳戶詳細資料

服務帳戶名稱
AIY VOICE KIT CLOUD SPEECH

這個服務帳戶的顯示名稱

服務帳戶 ID
aiy-voice-kit-cloud-speech

服務帳戶類別
服務帳戶類別 選擇以這個類別使用 API 服務

建立 取消



02

請選擇角色

條件

篩選類型

Project	瀏覽者
二進位授權	編輯者
存取權核准	擁有者
角色	檢視者
其他	
服務消費者管理	
服務帳戶	
API 服務	
管理角色	

檢視者
所有資源的讀取存取權。

03

建立「AIY VOICE KIT CLOUD SPEECH」的私密金鑰

下載內含私密金鑰的檔案。請妥善保存這個檔案，金鑰一旦遺失即無法重新取得。

金鑰類型

JSON

建議使用

P12

能夠使用 P12 格式的程式碼向下相容

Google AIY Python API Library



Machine
Learning

- [aiy.assistant](#): APIs that simplify interaction with the Google Assistant API.
- [aiy.cloudspeech](#): APIs that simplify interaction with the Google Cloud Speech-to-Text service.
- [aiy.voice.audio](#): APIs to record and play audio files.
- [aiy.voice.tts](#): An API that performs text-to-speech (reads some text aloud).
- [aiy.board](#): APIs to use the button that's attached to the Voice Bonnet's button connector.
- [aiy.leds](#): APIs to control the LEDs in the button.
- [aiy.pins](#): Pin definitions for the bonnet's extra GPIO pins, for use with gpiozero.

<https://aiyprojects.readthedocs.io/en/latest/>

Python Exercise

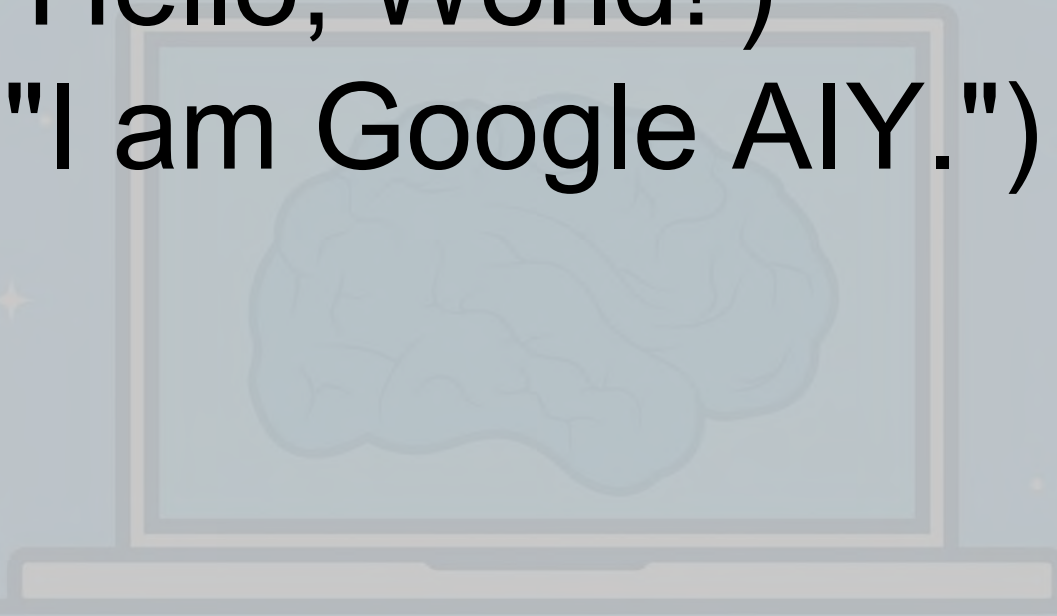
- 01** print
- 02** input
- 03** Text to Speech
- 04** while
- 05** if
- 06** elif
- 07** Camera
- 08** Button
- 09** AI Camera
- 10, 11** Cloud Speech Demo
- 12** Google Assistant Demo





Ex1 print

```
print('Hello, World!')  
print("I am Google AIY.")
```





Ex2 input

```
print('Please input your name:')  
myName = input()  
print('Hello '+ myName)
```



Ex9 AI camera

<https://cloud.google.com/vision/>

```
import os
import aiy.voice.tts
from aiy.board import Board
import requests, json
from picamera import PiCamera
camera = PiCamera()
camera.rotation = 180
photo_path = '/home/pi/Desktop/my_photo.jpg'

def photo(photo_path):
    with Board() as board:
        camera.start_preview()
        print('smile')
        aiy.voice.tts.say('smile')
        board.button.wait_for_press()
        camera.capture(photo_path)
        print('Finish!')
        aiy.voice.tts.say('Finish!')
        camera.stop_preview()
```

```
def ai_check(file_name):
    print('AI image recognition ')
    aiy.voice.tts.say('AI image recognition ')
    try:
        url = "http://ars.ykh.edu.hk:5003/WebService/wsVisionAPI.asmx/DetectLabels"
        files = {'file':open(file_name,'rb')}
        req = requests.post(url,files=files)
        return req.text
    except Exception as err:
        return str(err)
```

```
def text_to_speech(sRet):
    print('I can see ')
    aiy.voice.tts.say('I can see ')
    for sThing in sRet.split(';'):
        print(sThing)
        aiy.voice.tts.say(sThing)
```

```
def main():
    print('Hi, Press the button to take a photo.')
    aiy.voice.tts.say('Hi, Press the button to take a photo.')
    photo(photo_path)
    sRet = ai_check(photo_path)
    text_to_speech(sRet)

if __name__ == '__main__':
    main()
```



Ex10,11 Cloud Speech

AIY-voice-kit-python/src/examples/voice/cloudspeech_demo.py

```
import argparse
import locale
import logging

from aiy.board import Board, Led
from aiy.cloudspeech import CloudSpeechClient

def get_hints(language_code):
    if language_code.startswith('en_'):
        return ('turn on the light',
                'turn off the light',
                'blink the light',
                'goodbye')
    return None

def locale_language():
    language, _ = locale.getdefaultlocale()
    return language

def main():
    logging.basicConfig(level=logging.DEBUG)

    parser = argparse.ArgumentParser(description='Assistant service example.')
    parser.add_argument('--language', default=locale_language())
    args = parser.parse_args()
```

```
logging.info('Initializing for language %s...', args.language)
hints = get_hints(args.language)
client = CloudSpeechClient()
with Board() as board:
    while True:
        if hints:
            logging.info('Say something, e.g. %s.' % ', '.join(hints))
        else:
            logging.info('Say something.')
            text = client.recognize(language_code=args.language,
                                   hint_phrases=hints)
        if text is None:
            logging.info('You said nothing.')
            continue

        logging.info('You said: "%s"' % text)
        text = text.lower()
        if 'turn on the light' in text:
            board.led.state = Led.ON
        elif 'turn off the light' in text:
            board.led.state = Led.OFF
        elif 'blink the light' in text:
            board.led.state = Led.BLINKz
        elif 'goodbye' in text:
            break
```

```
if __name__ == '__main__':
    main()
```



Ex12 Google Assistant

AIY-voice-kit-python/src/examples/voice/assistant_grpc_demo.py --language en-UK

```
import logging
import platform
import sys
```

```
from google.assistant.library.event import EventType
```

```
from aiya.assistant import auth_helpers
from aiya.assistant.library import Assistant
from aiya.board import Board, Led
```

```
def process_event(led, event):
    logging.info(event)
```

```
if event.type == EventType.ON_START_FINISHED:
    led.state = Led.BEACON_DARK # Ready.
    logging.info("Say 'OK, Google' then speak, or press Ctrl+C to quit...")
```

```
elif event.type == EventType.ON_CONVERSATION_TURN_STARTED:
    led.state = Led.ON # Listening.
```

```
elif event.type == EventType.ON_END_OF_UTTERANCE:
    led.state = Led.PULSE_QUICK # Thinking.
```

```
elif (event.type == EventType.ON_CONVERSATION_TURN_FINISHED
      or event.type == EventType.ON_CONVERSATION_TURN_TIMEOUT
      or event.type == EventType.ON_NO_RESPONSE):
    led.state = Led.BEACON_DARK
```

```
elif event.type == EventType.ON_ASSISTANT_ERROR and event.args and event.args['is_']:
    sys.exit(1)
```

```
def main():
    logging.basicConfig(level=logging.INFO)
```

```
credentials = auth_helpers.get_assistant_credentials()
with Board() as board, Assistant(credentials) as assistant:
    for event in assistant.start():
        process_event(board.led, event)
```

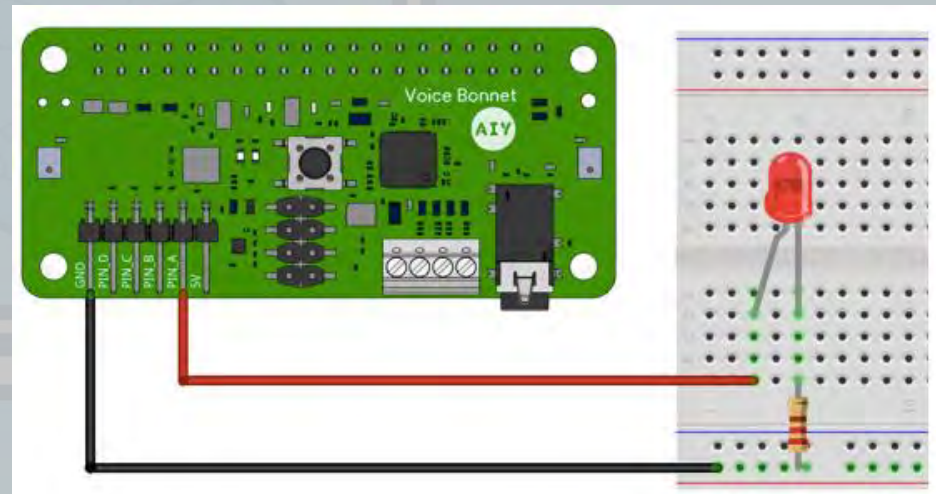
```
if __name__ == '__main__':
    main()
```


Ex07 GPIO_LED.py

```
from time import sleep
from gpiozero import LED
from aiy.pins import (PIN_A, PIN_B, PIN_C, PIN_D)

leds = (LED(PIN_A), LED(PIN_B), LED(PIN_C), LED(PIN_D))
while True:
    for led in leds:
        led.on()
        sleep(0.5)
        led.off()
```

Ex 15_GPIO_LED



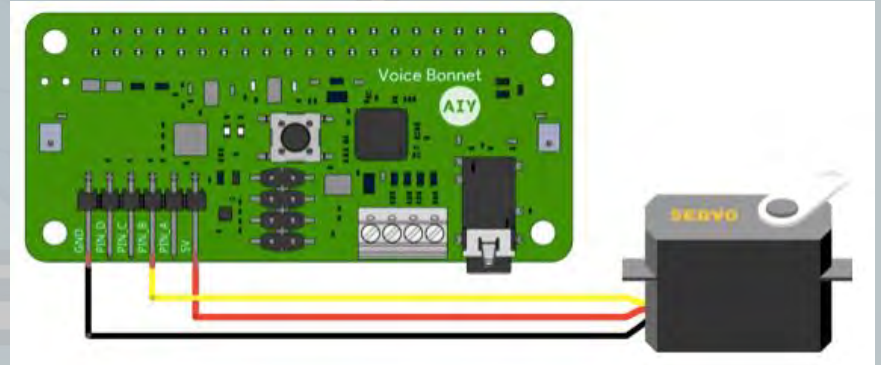
Ex08 GPIO Servo.py

```
from gpiozero import Servo
from aiy.pins import PIN_B

# Create a servo with the custom values to give the full dynamic range.
tuned_servo = Servo(PIN_B, min_pulse_width=.0005, max_pulse_width=.0019)

# Move the Servos back and forth until the user terminates the example.
while True:
    tuned_servo.max()
    sleep(1)
    tuned_servo.mid()
    sleep(1)
    tuned_servo.min()
    sleep(1)
```

Ex 16 GPIO_Servo



Connect 8266

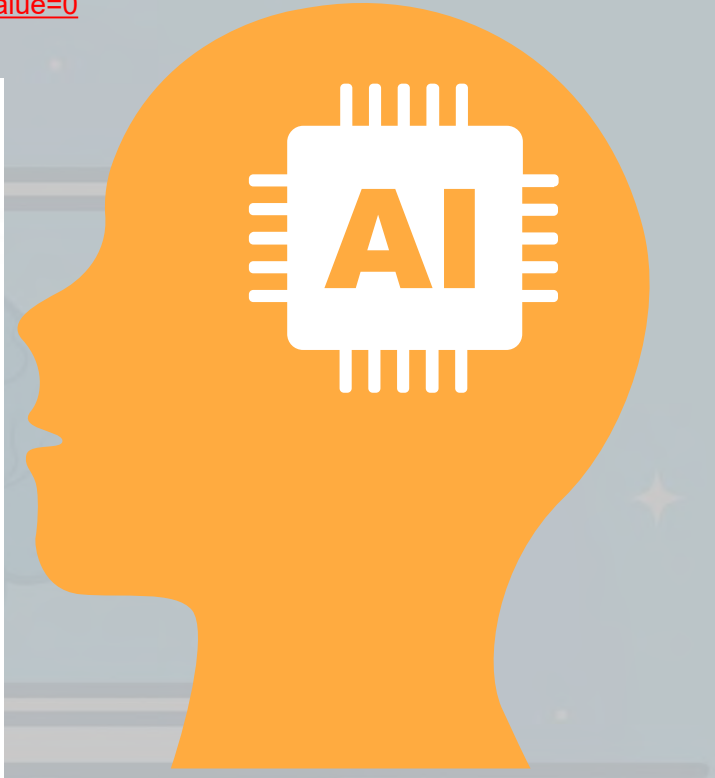
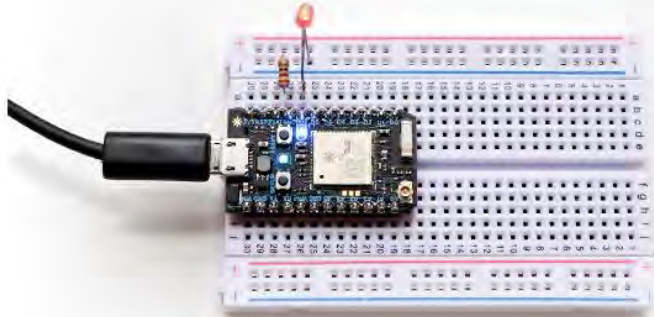
<http://stem.ykh.edu.hk:8080/296c4c5c950246ae993473ccb8acbec4/update/V1?value=1>

<http://stem.ykh.edu.hk:8080/296c4c5c950246ae993473ccb8acbec4/update/V1?value=0>

GOOGLE ACTIONS + PARTICLE PHOTON (VIA DIALOGFLOW)

Want to learn how to use your Voice Kit to control other IoT devices? You can start here with a [Particle Photon](#) (a Wi-Fi development kit for IoT projects) and [Dialogflow](#) (a tool for creating conversational interfaces). This tutorial will show how to make your Voice Kit communicate with Dialogflow (and Actions on Google) to control an LED light with the Photon by voice.

Get all the code for this example [here](#).



Voice Kit 應用



聲控水機



AI 分類回收機



以科技解決社
會上的問題

野豬滋擾問
題

流浪牛問題

以科技解決社會上的問題



M A C H I N E L E A R N I N G



Google 野豬滋擾問題

全部 新聞 圖片 影片 地圖 更多 設定 工具

約 125,000 項搜尋結果 (0.31 秒)

「豬」出沒注意！香港點「人性化」解決野豬滋擾問題？ - 思考HK
www.thinkhk.com/article/2019-02/13/32916.html
2019年2月13日 - 近年來，野豬在香港大量繁殖，對公眾造成滋擾，已構成嚴重的社區衛生問題，野豬出沒或造成滋擾的投訴個案持續上升。

漁農自然護理署野豬滋擾
https://www.afcd.gov.hk/tc_chi/conservation/con.../con_fau_nui_pig.html
野豬(學名為Sus scrofa)是本地體型最大的陸棲哺乳動物，成豬體重可達200公斤及體長達2米。牠們長有厚而粗糙的短毛，毛色為灰棕至黑。幼豬初出生時毛色呈...

立法會十題：野豬造成的滋擾 - Gov HK

【來論】香港要如何解決野豬問題？

f 消息 圖 音

2019-01-14 09:39



圖：資料圖

文：寒柏

近日，又有人被野豬所傷。去年首十個月，漁護署接獲679宗野豬滋擾報告，還有5宗野豬傷人事件。儘管有關野豬傷人的宗數上並不曾多，似乎問題並不嚴重，但近年

「豬」出沒注意！香港點「人性化」解決野豬滋擾問題？

2019-02-03



今年是農曆豬年，「豬年豬人愛」的趣怪博得無數市民喜愛，但同樣是豬，不知出沒在田間地頭的野豬就不那麼受歡迎。近年來，野豬在香港大量繁殖，對公眾造成滋擾，已構成嚴重的社區衛生問題，野豬出沒造成滋擾的投訴個案持續上升。數據顯示，從2011年的1925宗有關野豬的投訴，2013年有294宗，2015年則有3740宗，每年均

【野豬襲黃大仙】野豬滋擾投訴倍增 漁署拒透露避孕試驗計劃進度

野豬避孕試驗計劃變X file

邊區有做到？
初步成效點？

漁護拒答
議員：點監察！

突發

新聞 02/09/2019 11:00:00 粵語新聞 02/09/2019 11:00:00



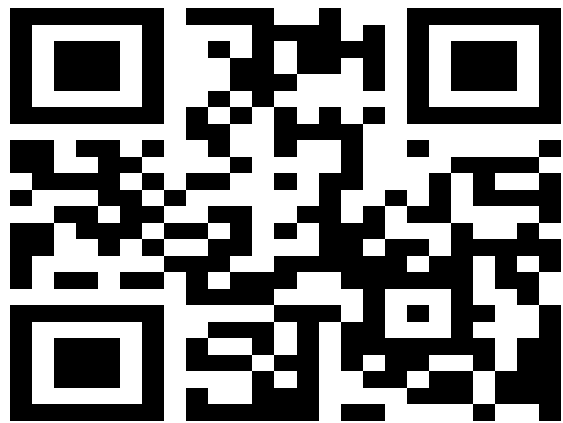
Experiments with Google (AI)

- <https://experiments.withgoogle.com/collection/ai>



活動 1: 體驗圖像辨識

- 以Safari瀏覽網頁
- <https://emojiscavengerhunt.withgoogle.com>
- 需要按「允許」
- Safari使用相機功能



活動 2: QuickDraw(限時塗鴉)

- 以Safari瀏覽網頁
- <https://quickdraw.withgoogle.com>
- 體驗圖像辨識



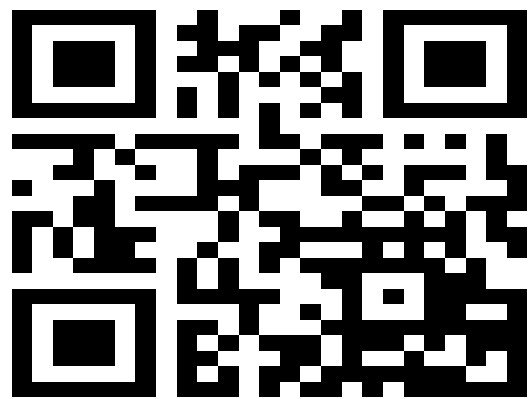
活動 3: 移除背景

- 瀏覽網頁
- <https://www.remove.bg/>
- 使用雲端服務移除人像背景



活動 4: 體驗圖像辨識+翻譯

- 以Safari瀏覽網頁
- <https://thing-translator.appspot.com/>
- 需要按「允許」
- Safari使用相機功能



活動 5: 語音辨識

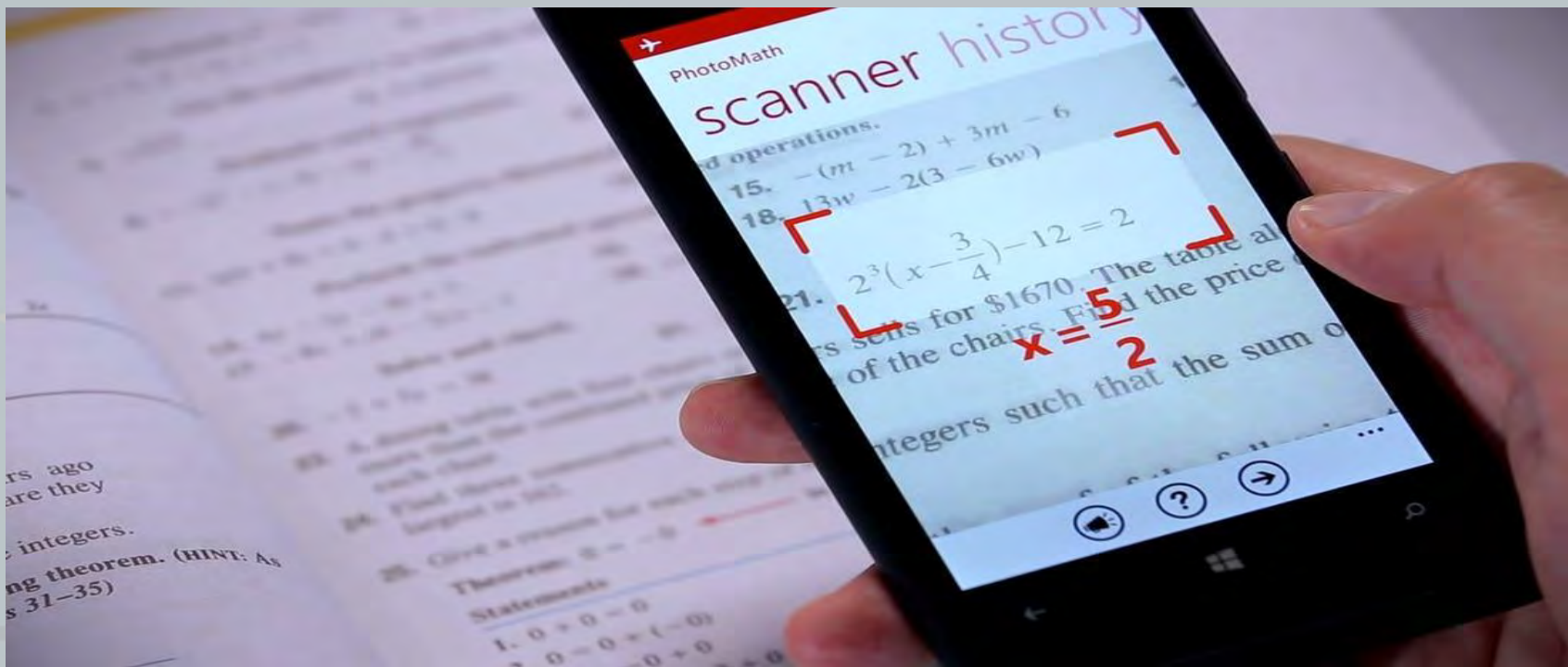
- Windows:
 - <https://dictation.io/>
- iOS App:
 - **Dictate - Speech to text**
- 嘗試對比一個字 或 一段文字進行語音辨識

活動 6:自然語言理解 (問書)

- 以Safari瀏覽網頁
- <https://books.google.com/talktobooks/>



活動 7: PhotoMath



- <https://experiments.withgoogle.com/ai/sound-maker/view/>

活動 8: Sound Maker



活動: Apple iOS Core ML



cell phone: 0.98224664



mouse: 0.98451155



fps: 29.019328643055324

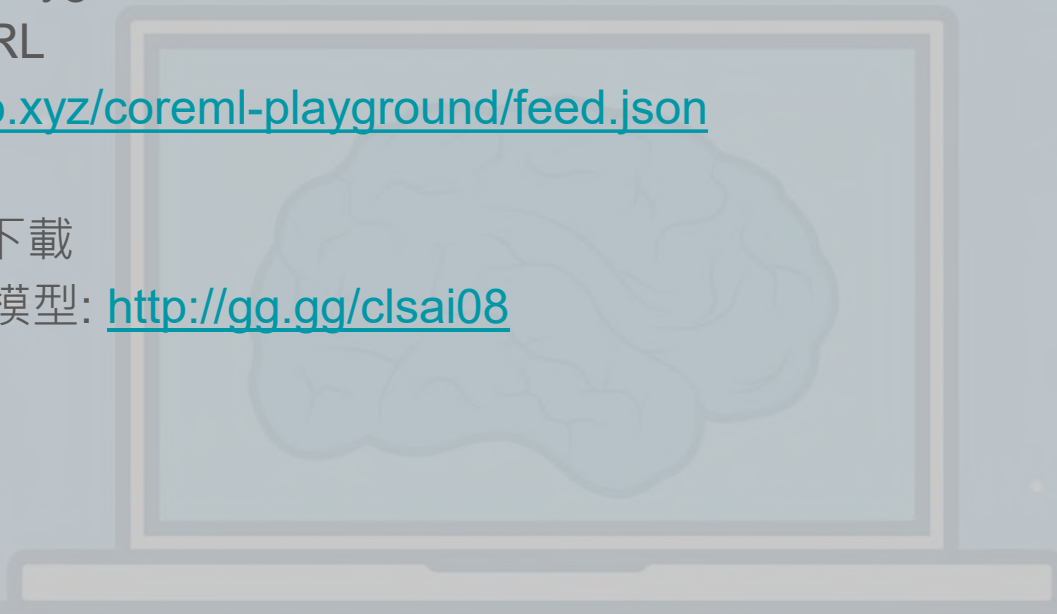


Stop

imgPlay

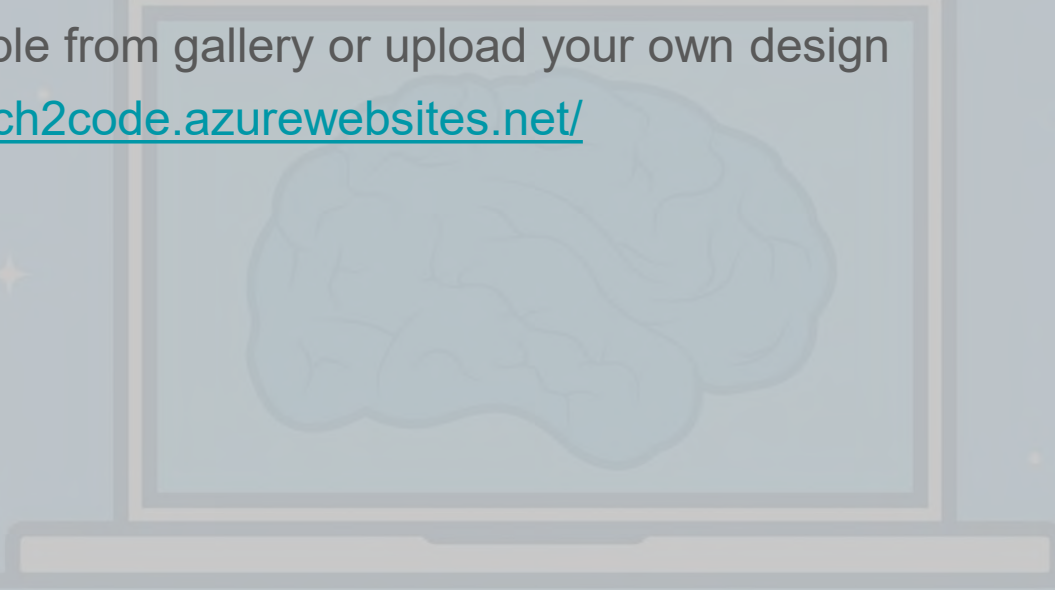
活動 1: ML機器學習編程引入

- 開啓Swift Playground
- 輸入訂閱URL
- <https://kebo.xyz/coreml-playground/feed.json>
- 使用Safari下載
- Model訓練模型: <http://gg.gg/clsai08>



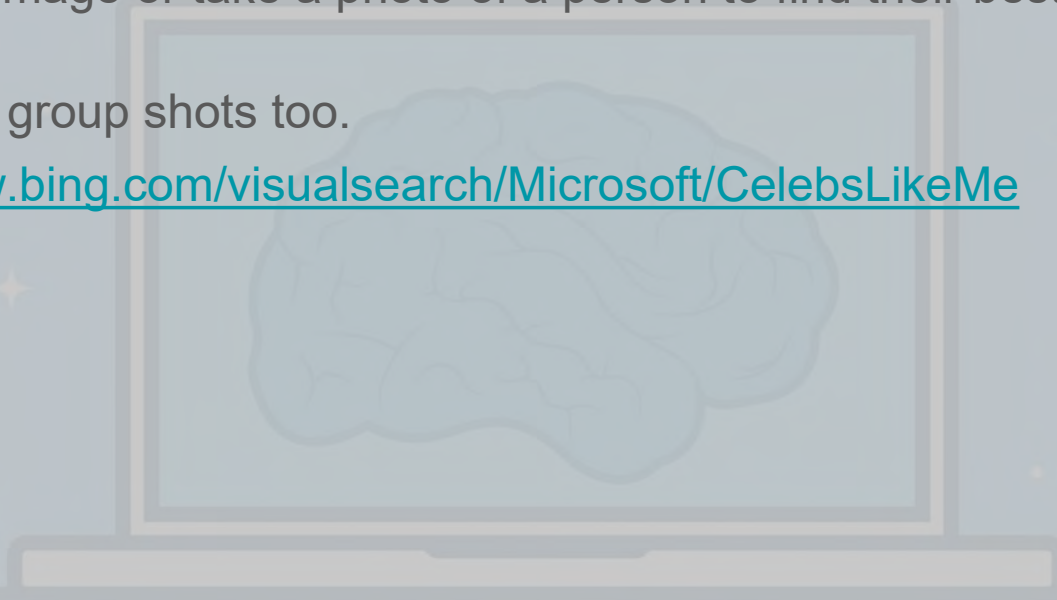
Microsoft AI Lab: Sketch2Code

- Transform any hands-drawn design into a HTML code with AI.
- Use a sample from gallery or upload your own design
- <https://sketch2code.azurewebsites.net/>



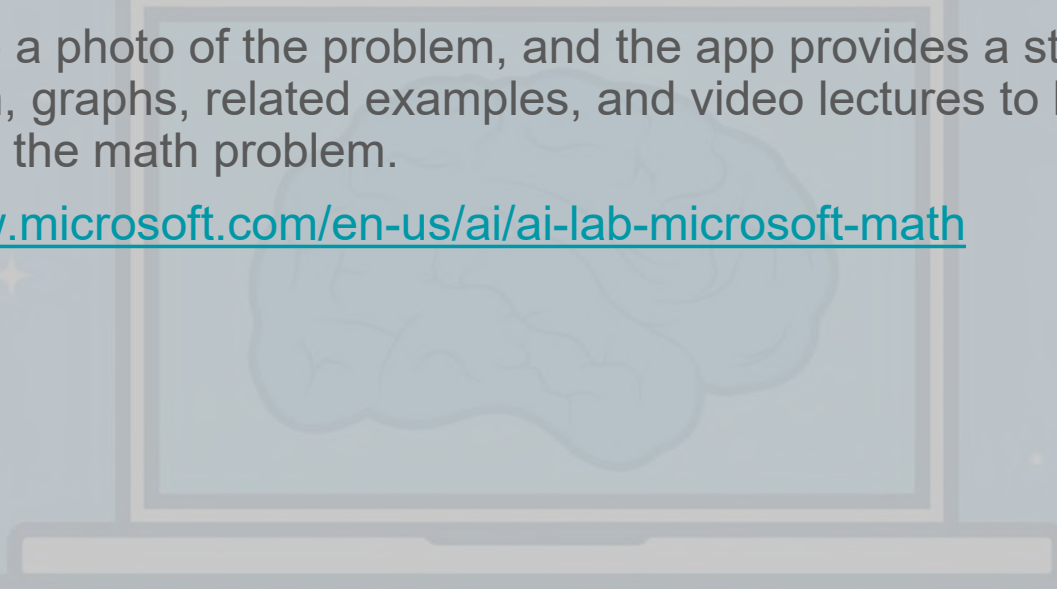
Microsoft AI Lab 2: Celebs Like Me

- Upload an image or take a photo of a person to find their best celebrity look-alike.
- Works with group shots too.
- <https://www.bing.com/visualsearch/Microsoft/CelebsLikeMe>



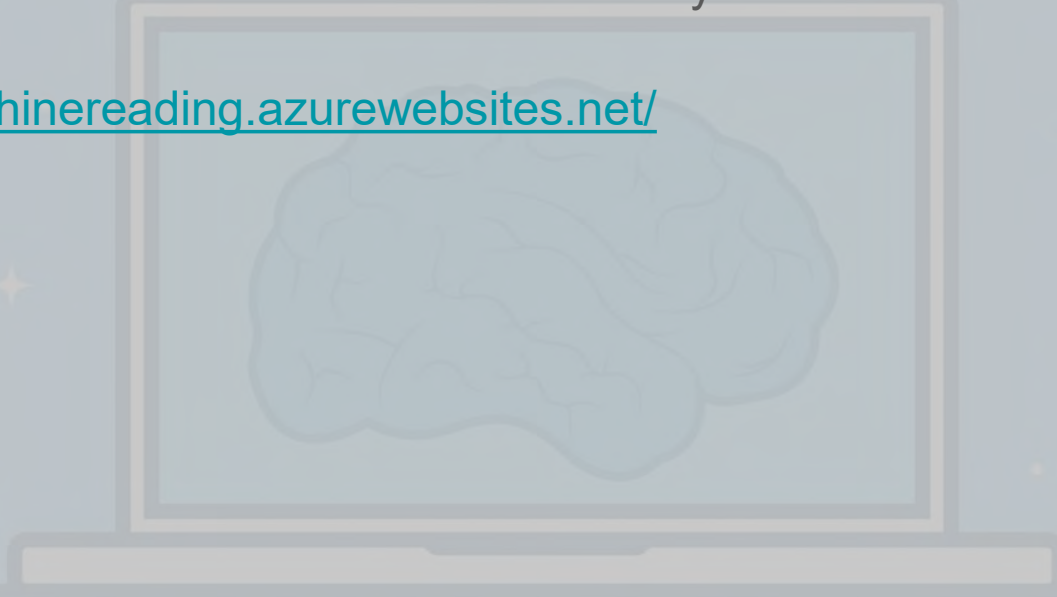
Microsoft AI Lab 3: Microsoft Math

- Search and find math solutions from a handwritten problem.
- Users snap a photo of the problem, and the app provides a step-by-step explanation, graphs, related examples, and video lectures to better understand the math problem.
- <https://www.microsoft.com/en-us/ai/ai-lab-microsoft-math>



Microsoft AI Lab 4: Machine Comprehension Tasks

- Finding answers has never been easier. All you have to do is ask our AI system
- <https://machinereading.azurewebsites.net/>



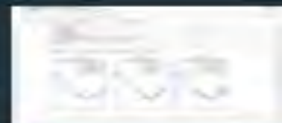
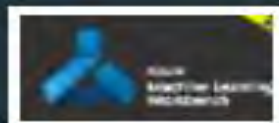
New!

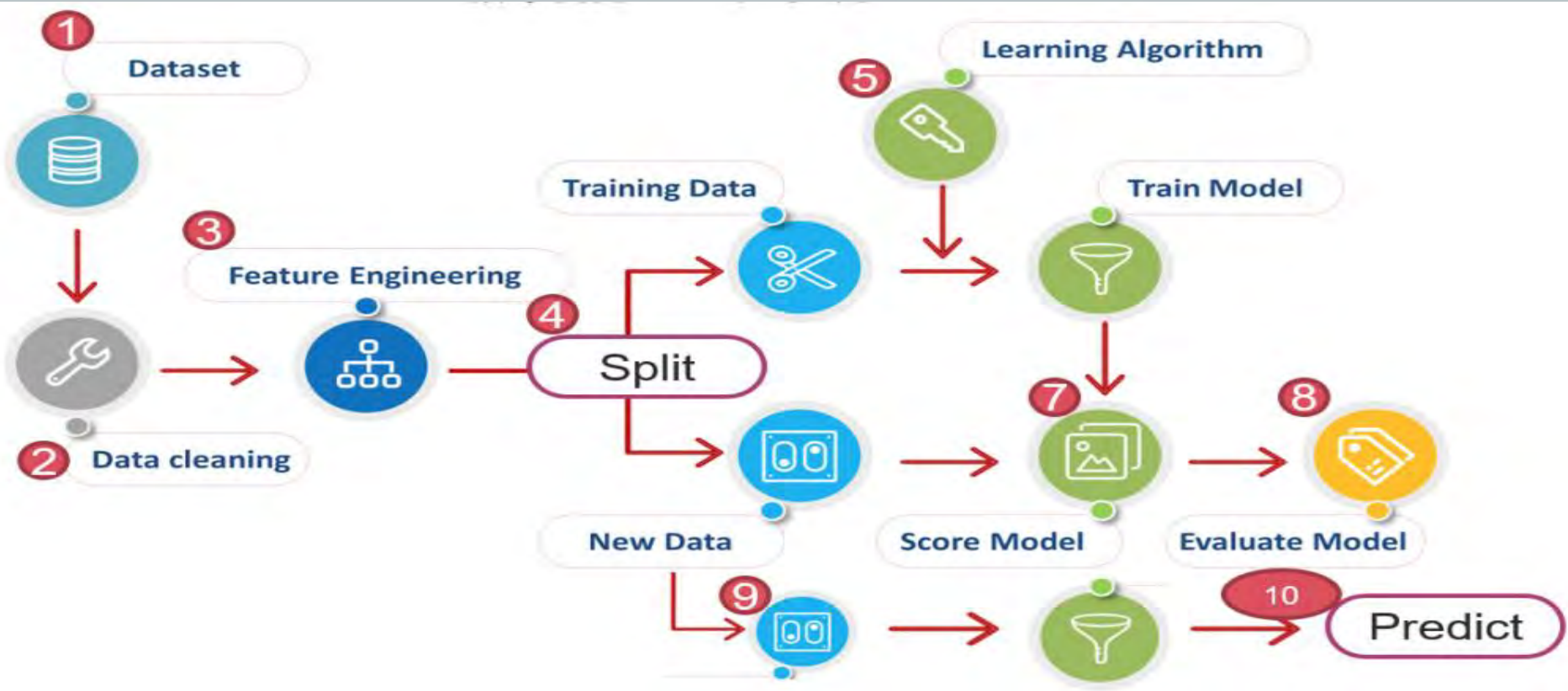


Azure

Machine Learning
service

today!





Infuse AI into your apps with APIs for:



Vision



Speech



Language



Web search



Decision

Azure Cognitive Services

Which Azure AI service should I use?

I want to build my own ML models

I want to use pre-built models

Azure Machine Learning service

Yes

Do I want to use Python?

No

Yes

Do I want to use my own dev environment?

No

Yes

Familiar with ML algorithms?

No

Azure ML Python SDK

Install the SDK in any Python environment (Jupyter Notebooks, VS Code, etc) and use it with all popular ML frameworks.

Boost productivity with capabilities like data prep, automated ML, hyperparameter tuning, MLOps, and simple deployment.

Azure ML Notebook VMs

Cloud-hosted VMs with Jupyter Notebooks. Preconfigured with the Azure ML Python SDK, popular frameworks, and smooth integration with Azure compute.

Azure ML Visual interface

Prep data, train, deploy, manage, and track machine learning models with a drag and drop interface.

Azure ML Automated ML UX

Automatically train and tune a model for your dataset and target metric with a UX with form-like simplicity.

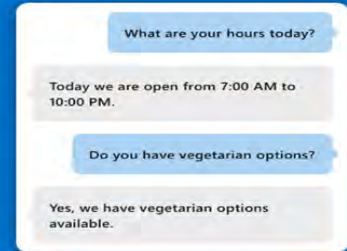
Automated ML tests multiple algorithms and hyperparameters in parallel to generate the most suitable model.

QnA Maker

From data to bot in minutes

Build, train and publish a sophisticated bot using FAQ pages, support websites, product manuals, SharePoint documents or editorial content through an easy-to-use UI or via REST APIs.

[Get started >](#)



mBlock v5 人工智能 (認知服務)

The image displays three distinct mBlock v5 AI service blocks, each starting with a yellow '當 被點一下' (When clicked) trigger block. The first block is for voice recognition, featuring a pink '開始 香港話(繁體) 語音識別, 持續 2 秒' (Start Cantonese (Traditional) voice recognition, duration 2 seconds) block and a blue '說 語音識別結果' (Say voice recognition result) block. The second block is for face recognition, with a pink '在 1 秒後辨識人臉年齡' (Recognize face age 1 second later) block and a blue '說 年齡識別結果' (Say age recognition result) block. The third block is for handwriting recognition, with a pink '在 2 秒後辨識英文手寫文字' (Recognize English handwriting 2 seconds later) block and a blue '說 文字辨識結果' (Say text recognition result) block.

當 被點一下

開始 香港話(繁體) 語音識別, 持續 2 秒

說 語音識別結果

當 被點一下

在 1 秒後辨識人臉年齡

說 年齡識別結果

當 被點一下

在 1 秒後辨識人臉情緒

說 高興 的指數

當 被點一下

在 2 秒後辨識英文手寫文字

說 文字辨識結果

- 動作
- 外觀
- 音效
- 事件
- 控制
- 偵測
- 運算
- 變數
- 函式積木
- Face AI

Face AI

Detect Face
 When Face Detected
 Age
 Gender Male ▾
 Smile
 Emotion neutral ▾
 Beauty
 Skin Status health ▾
 Ethnicity ASIAN ▾
 Create Face Class ClassA
 Add Face Tom Class ClassA
 Search Face Class ClassA

Kittenblock

TensorFlow

讀取 CSV D:\data.csv 到
 讀取 CSV D:\data.csv 到
 讀取 圖片 D:\training\ xs
 數據洗牌 xs ys
 保存模型 名稱 mnist
 加載模型 拓撲 D:\mnist.json
 初始化模型 輸入維度 224x224
 模型 添加密集層 unit 1
 模型 添加Conv2D層 核
 模型 添加Maxpool2D層 尺寸

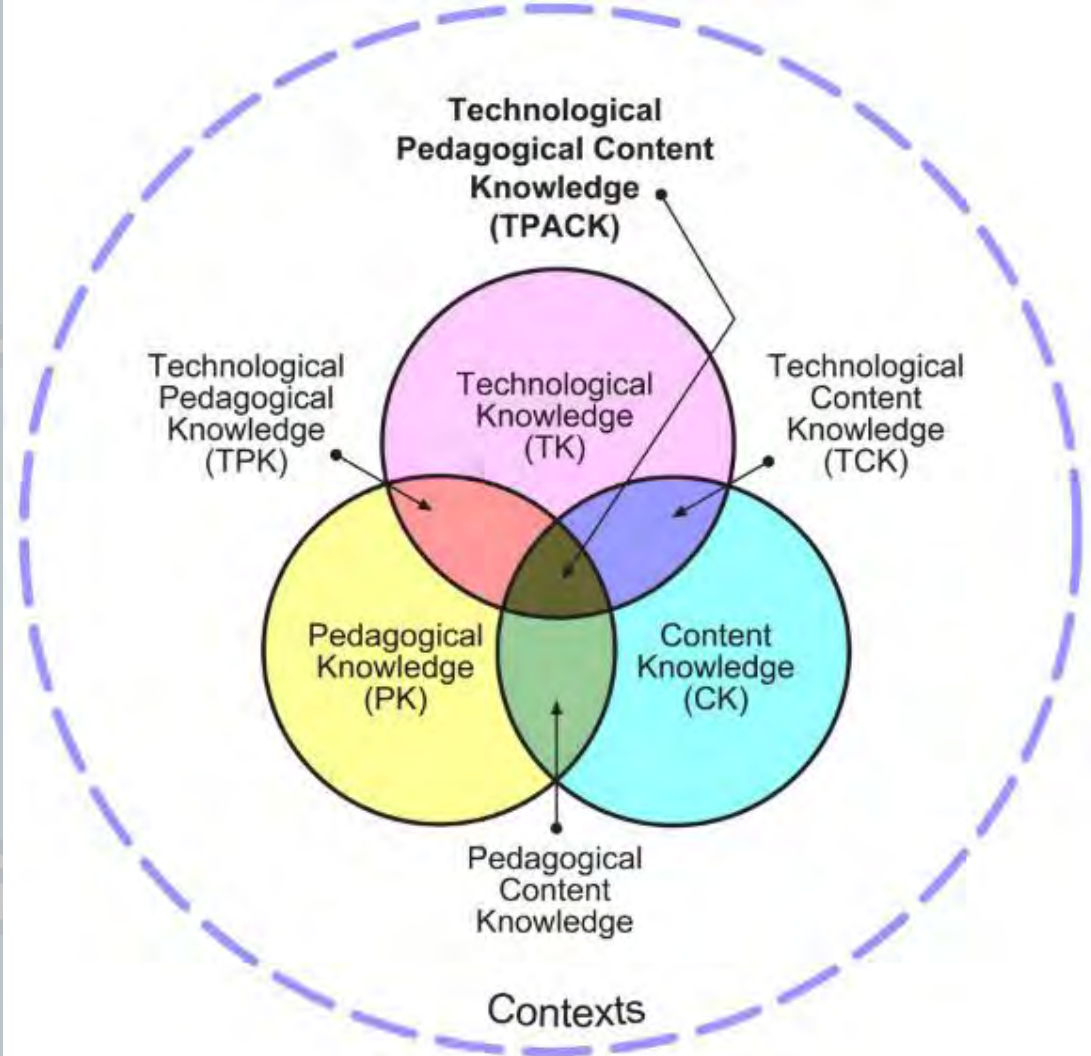
中學IT創新實驗室



教學法：科技教學學科知識 (TPACK)

範疇	意思
CK	內容知識 (Content Knowledge)
PK	教學知識 (Pedagogical Knowledge)
PCK	教學內容知識 (Pedagogical Content Knowledge)
TK	科技知識 (Technology Knowledge)
TCK	科技內容知識 (Technological Content Knowledge)
TPK	科技教學知識 (Technological Pedagogical Knowledge)
TPACK	科技教學學科知識 (Technological Pedagogical Content Knowledge)

TPACK Model



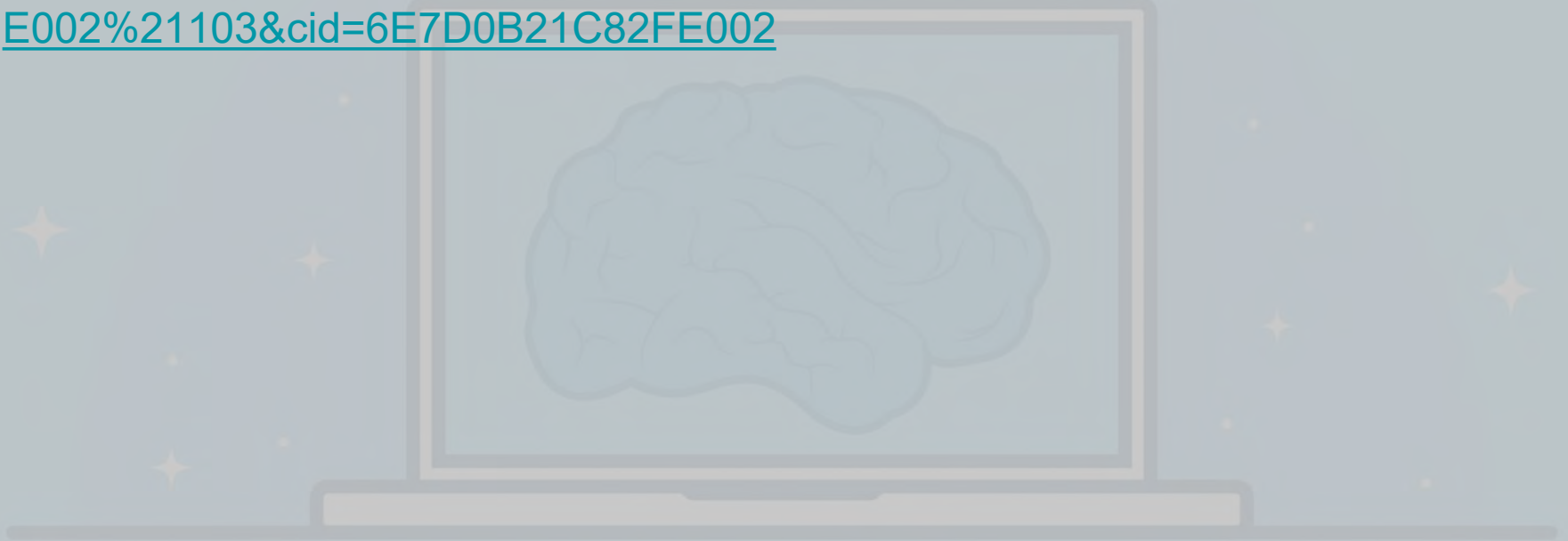
3. 習作討論: 如何應用人工智能於教育中

<https://jamboard.google.com/d/1hIEOwzIIPgRX8vqdMxBK3NaBA1PXRn5YE355I7hTjVU/edit?usp=sharing>



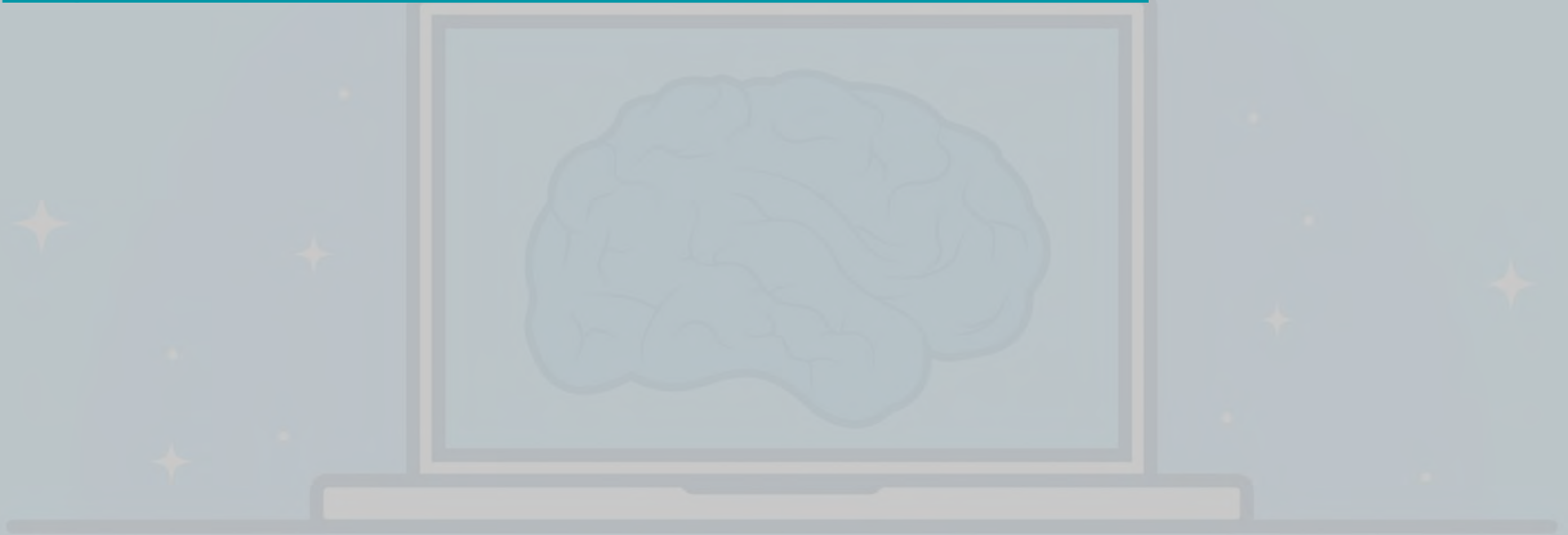
Office365 Setup

<https://onedrive.live.com/?authkey=%21AF8WbTHYhelMy38&id=6E7D0B21C82FE002%21103&cid=6E7D0B21C82FE002>



Guide to activate Azure for students

<https://azure.microsoft.com/en-us/free/students>



步驟二) 填寫個人資料

1 About you ^

Country/Region ⓘ

Hong Kong SAR ▾

First name

This field is required

Last name

Email address for important notifications ⓘ

Phone

Example: 6123 4567

By proceeding you acknowledge that if you use your organization's email, your organization may have rights to access and manage your data and account. [Learn more](#)

Next

2 Identity verification by phone ▾

3 Agreement ▾

步驟四) 現在你可以試用Azure (12months/USD \$100 credit)

*After you exhaust your available credit or reach the end of 12 months.Azure subscription will be disabled.

Microsoft Azure

Search resources, services, and docs (G+)

office195@mshkschool...
MSHK SCHOOL

Home > Education - Overview

Education - Overview
PREVIEW

Overview

Software

Learning

Templates

NEED HELP?

Student FAQ

Start building the future with Azure for Students!

Students are eligible for \$100 credit from Azure for Students.

Claim your Azure

Start building your apps

Develop in Visual Studio with your favorite language to create custom apps.

Explore AI

Cognitive Services and smart APIs enable your apps to see, hear, speak, understand, and do more.

Make the most of big c

Build and train machine le...
faster with the latest open...
technologies.

聯絡

Mobile: 6111 0958 (Peter sir)

Email: petersir@connect.hku.hk

