
How to Improve Learning Motivation with AI Curriculum and Online Experiments?

ERIC SIR

YING WA COLLEGE



Against or Interact

Teachers

- AI Curriculum
- Online Experiments

Students

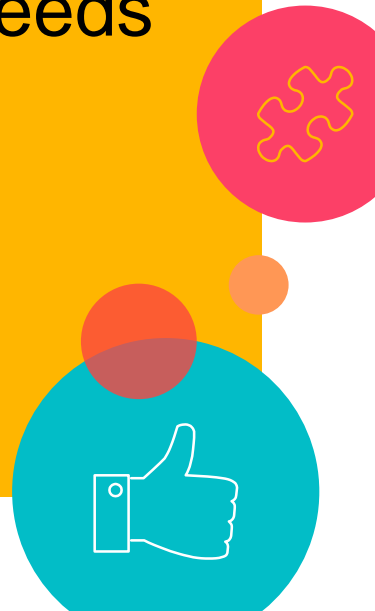
- Learning Motivation

教學失效的系統原因

- 未能配合學生的能力
- 調動學生的積極性有關

Ineffective teaching

- to meet individual student needs
- Degree of participation encouraged/required



AI curriculum

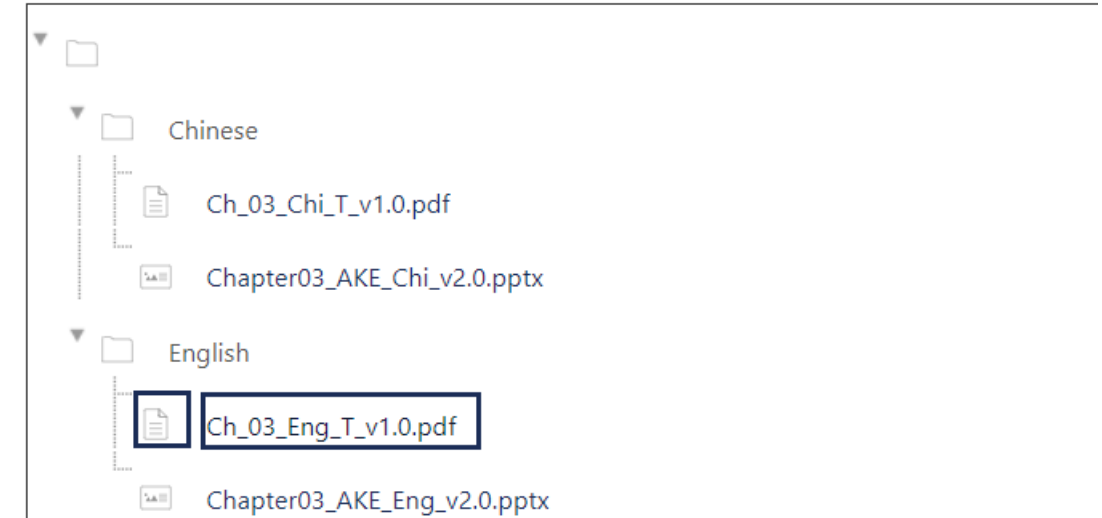


[Dashboard](#) / [My Courses](#) / [Master Course](#) / [Chapter 3: See](#) / [Chapter 3 Awareness](#)

Master Course

Chapter 3 Awareness, Knowledge 理 (教師版本)

Awareness, Knowledge and Ethics | 意識、知識及倫理



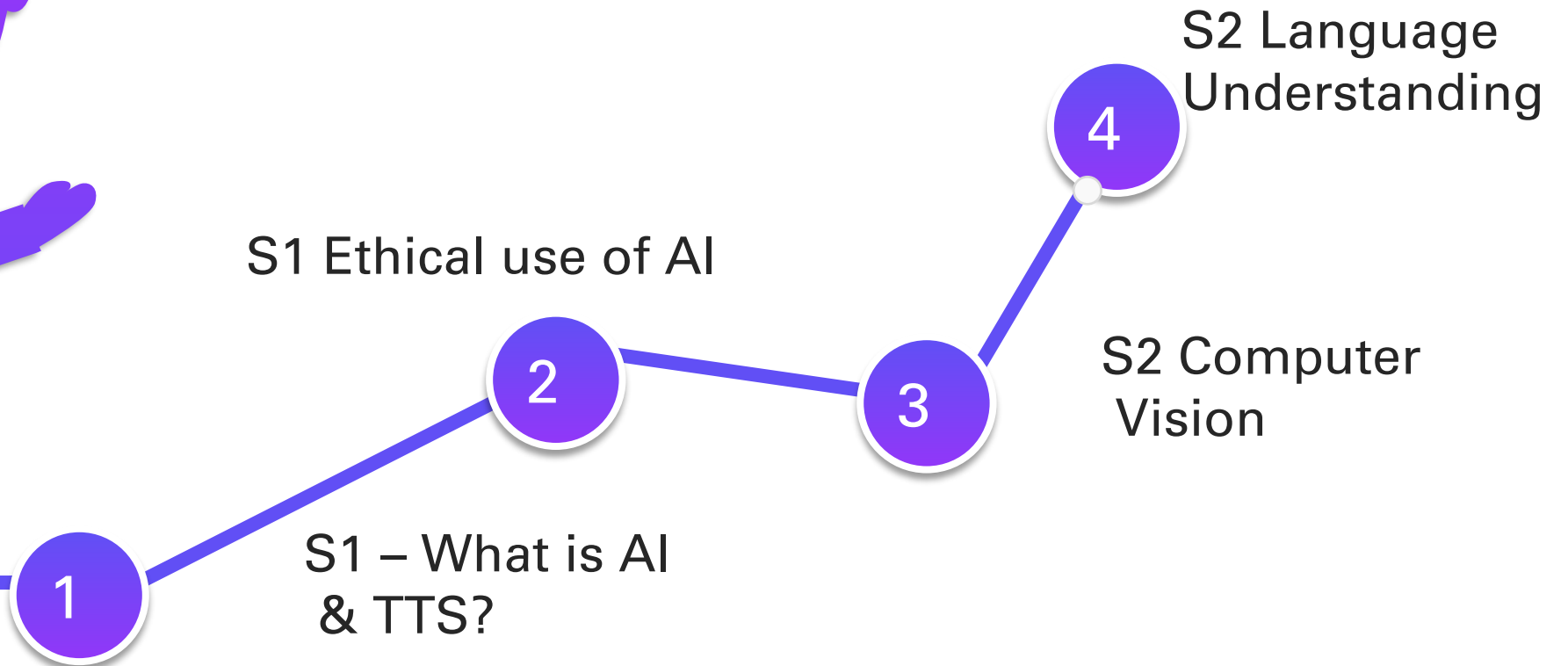


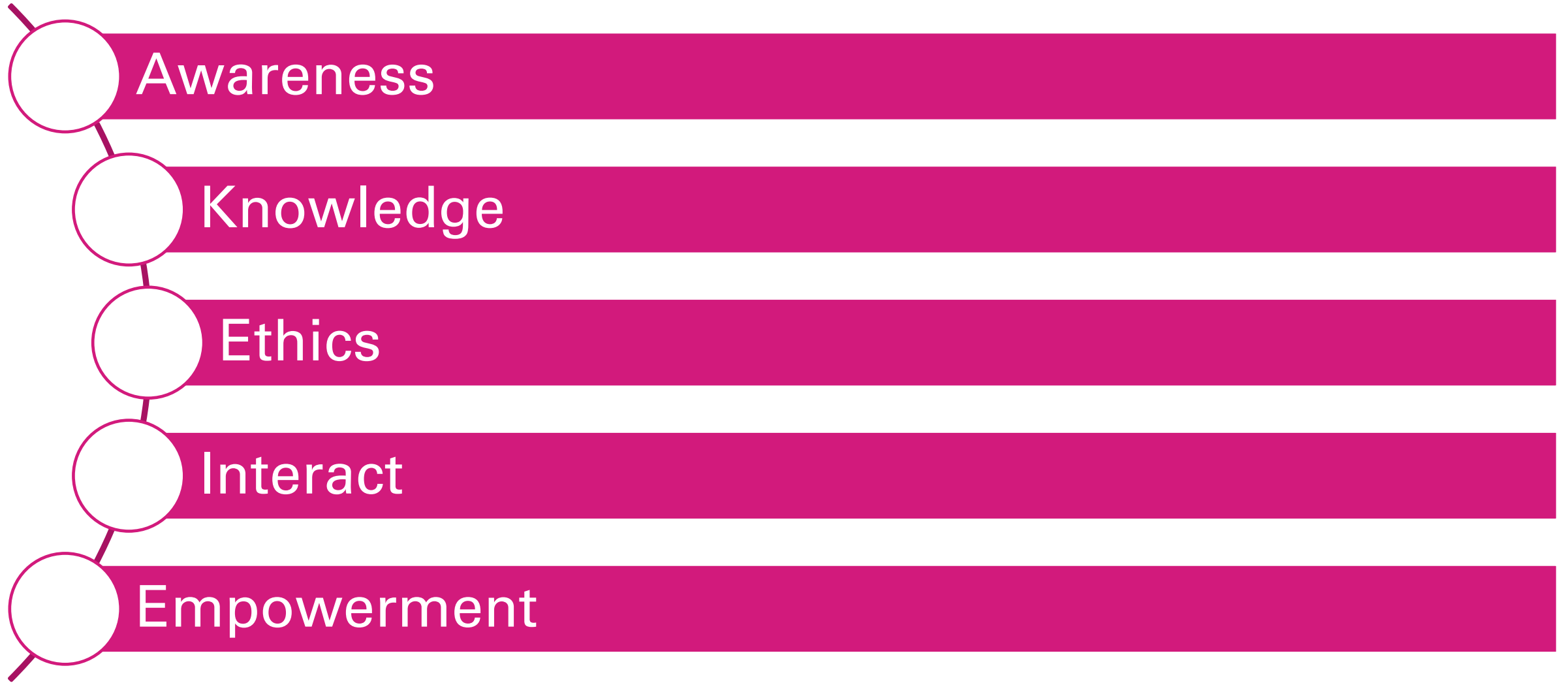
UNDERSTAND AI
OR
MAKE USE OF AI





Learning topics







S1

Interact

- Awareness
- Knowledge
- Ethics

S2

Empowerment



FOR S1
KNOW MORE ABOUT AI





2003年，我开始分辨发音的标准
In 2003, I began to distinguish the quality of your pronunciation

LTE 2021 - Exploring AI Technology and Coding Skills in AI Education

Hi!
I am A.I._



Hi, 我是A.I.
Hi, I'm A.I.

[Go eLearning - Learning and Teaching Expo 2021](#)
[– Exploring AI Technology and Coding Skills in AI Education \(hkedcity.net\)](#)



NURTURING STUDENTS' CURIOSITY

FROM AI HISTORY TO AI APPLICATION

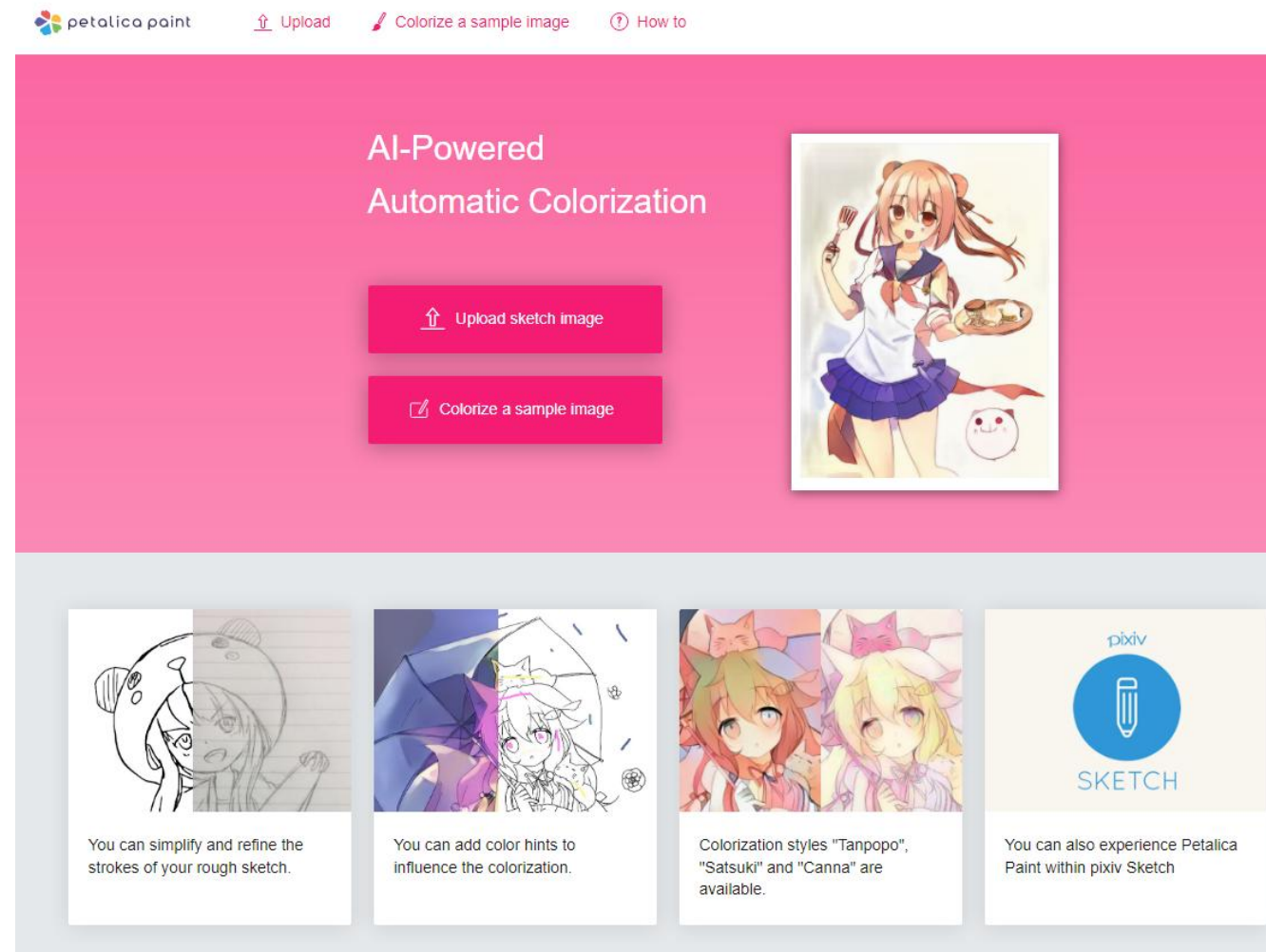


Chapter 9

Petalica Paint (pixiv.dev)

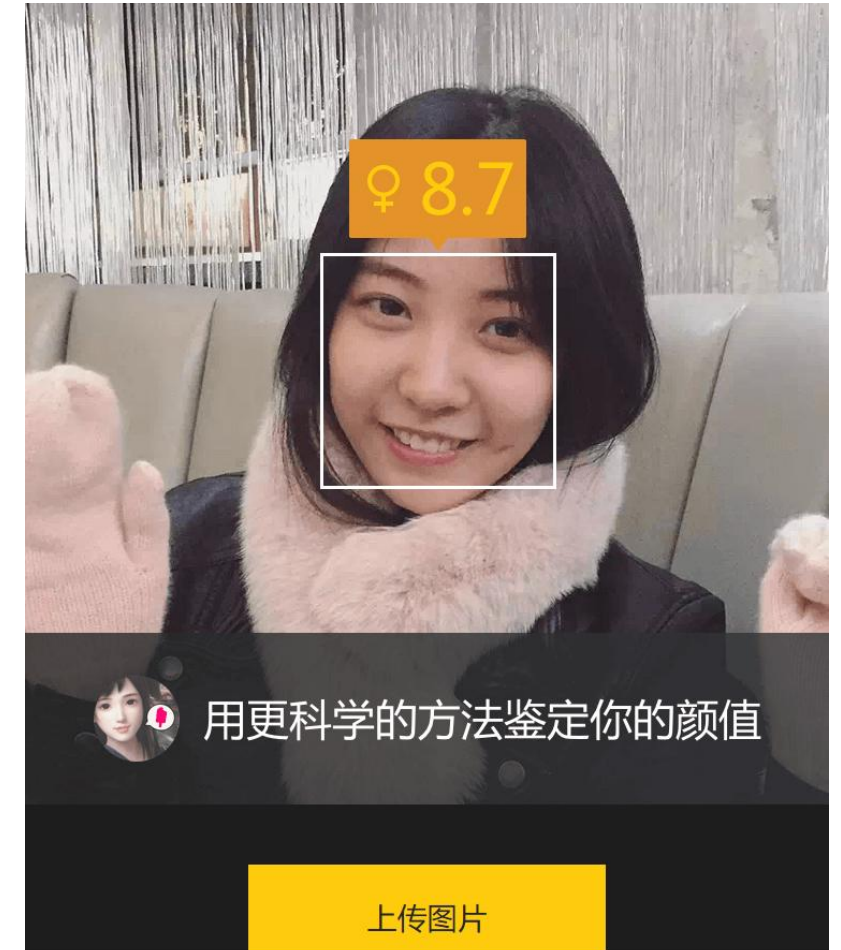
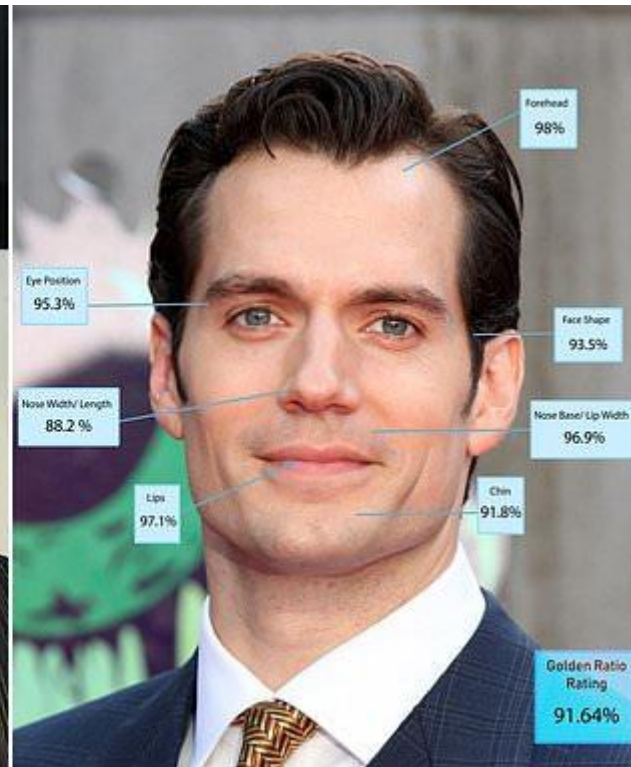
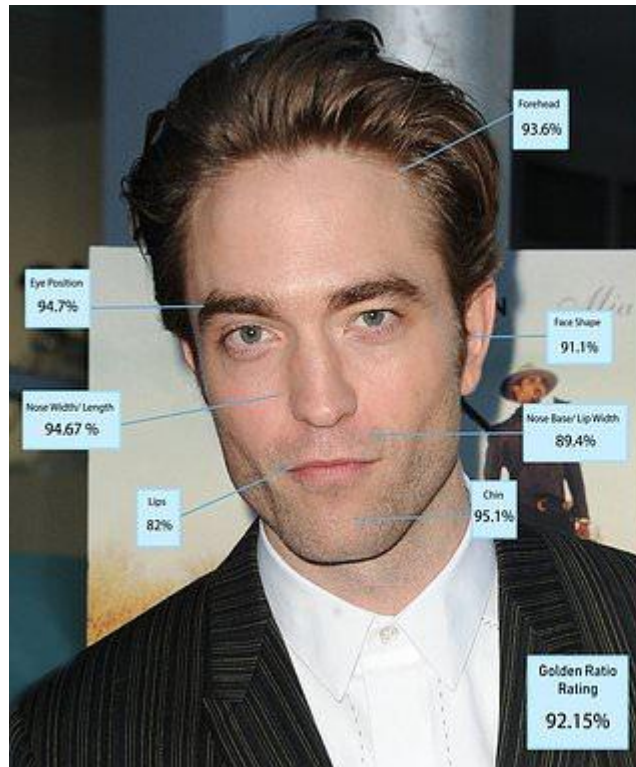
- Automatic colorization

https://petalica-paint.pixiv.dev/index_en.html

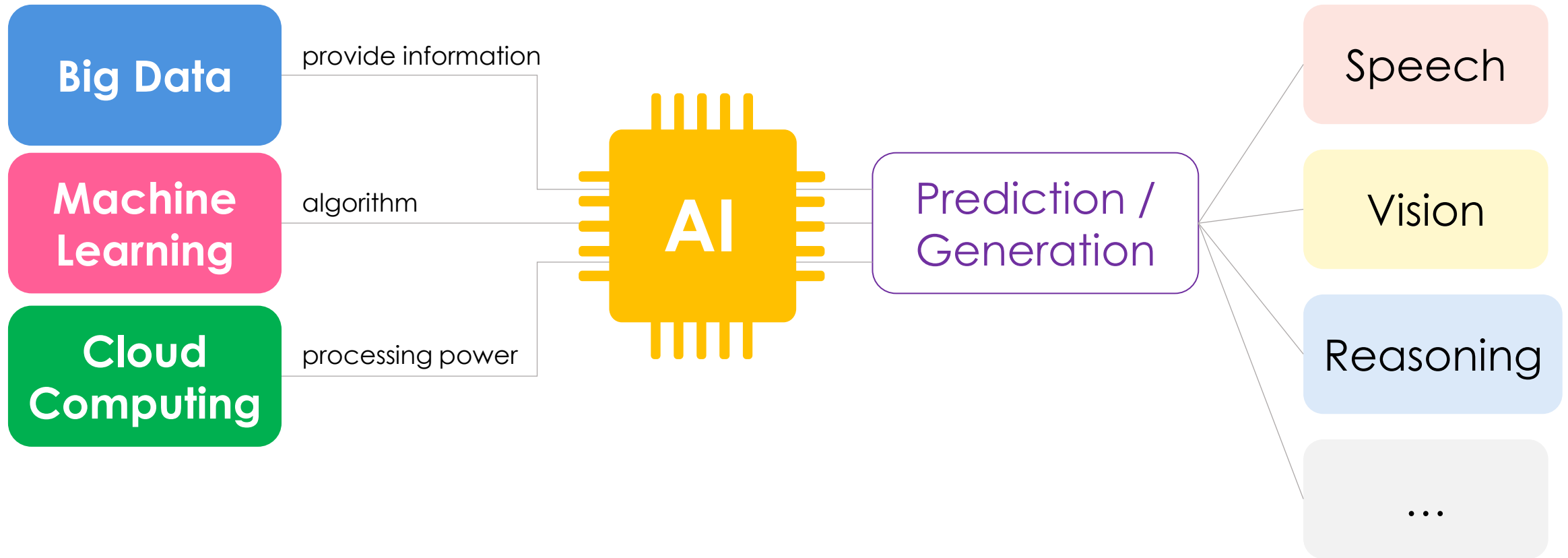


Beauty Score

Who is the most handsome boy in the class?



AI Today



AI today is empowered by **Big Data**, **Machine Learning** and **Cloud Computing**

Beauty Score

Three components (**Big Data**, **Machine Learning**, **Cloud Computing**) of AI used.

Big data:

History of user's rating and comments from different country

Machine learning:

Neural network analyzes previous user rating and comments

Cloud computing:

Computational power supports processing of user rating, comments as well as generating predictions

AI – Image processing

The screenshot displays the Picwish website, which offers various AI image processing tools. The interface is clean and modern, with a light blue header and a white main content area. The header includes the Picwish logo, navigation links for 'AI图像处理' (AI Image Processing), '使用场景' (Usage Scenarios), '下载APP' (Download App), and '开发者服务 (API)' (Developer Services (API)). A '登录' (Login) link is also present in the top right corner.

The main content area is divided into two sections. The left section lists various AI tools under three categories: 'AI消除' (AI Removal), 'AI变清晰' (AI Sharpening), and '更多工具' (More Tools). The right section features a large banner for '免费在线AI抠图' (Free Online AI Image Extraction), which includes a '100% 免费' (100% Free) badge and a '上传图片' (Upload Image) button. Below the banner, there are example images and a '在线客服' (Online Customer Service) chat button.

佐糖

AI图像处理 ∨ 使用场景 ∨ 下载APP

AI消除

在线抠图

在线去水印

AI变清晰

人像变清晰

通用变清晰

图片无损放大

更多工具

图片压缩

图片裁剪

免费在线AI抠图

智能识别图片，轻松一键抠图

100% 免费

上传图片
或者拖入一个文件

点击示例图，查看效果

抠图

裁剪

素材

在线客服

- <https://picwish.cn/>



Cleanup.pictures

Use cases

Pricing

FAQ

API



Remove any unwanted **object**, **defect**, **people** or **text** from your pictures in seconds



Cleanup.pictures

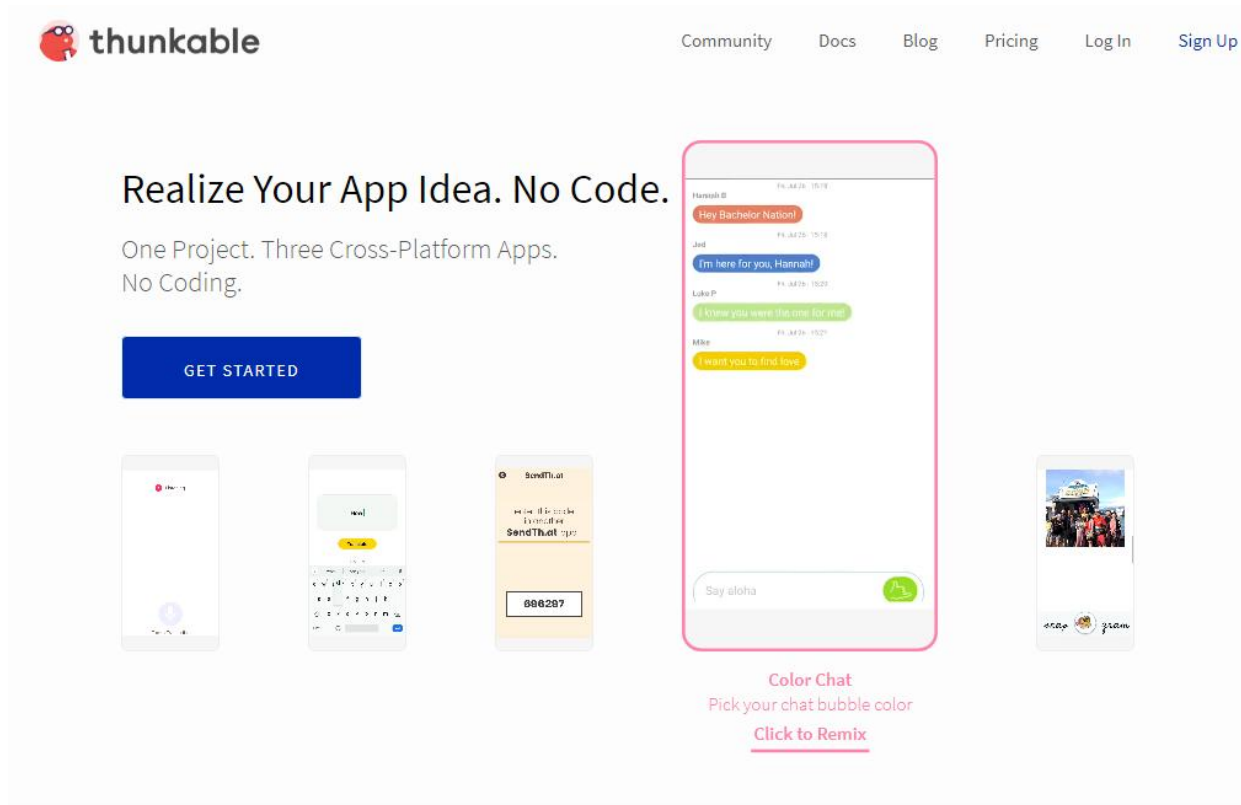
- <https://cleanup.pictures>



APPLY AI FOR SOLVING PROBLEMS



Thunkable (no API key)





Every Platform. Natively.

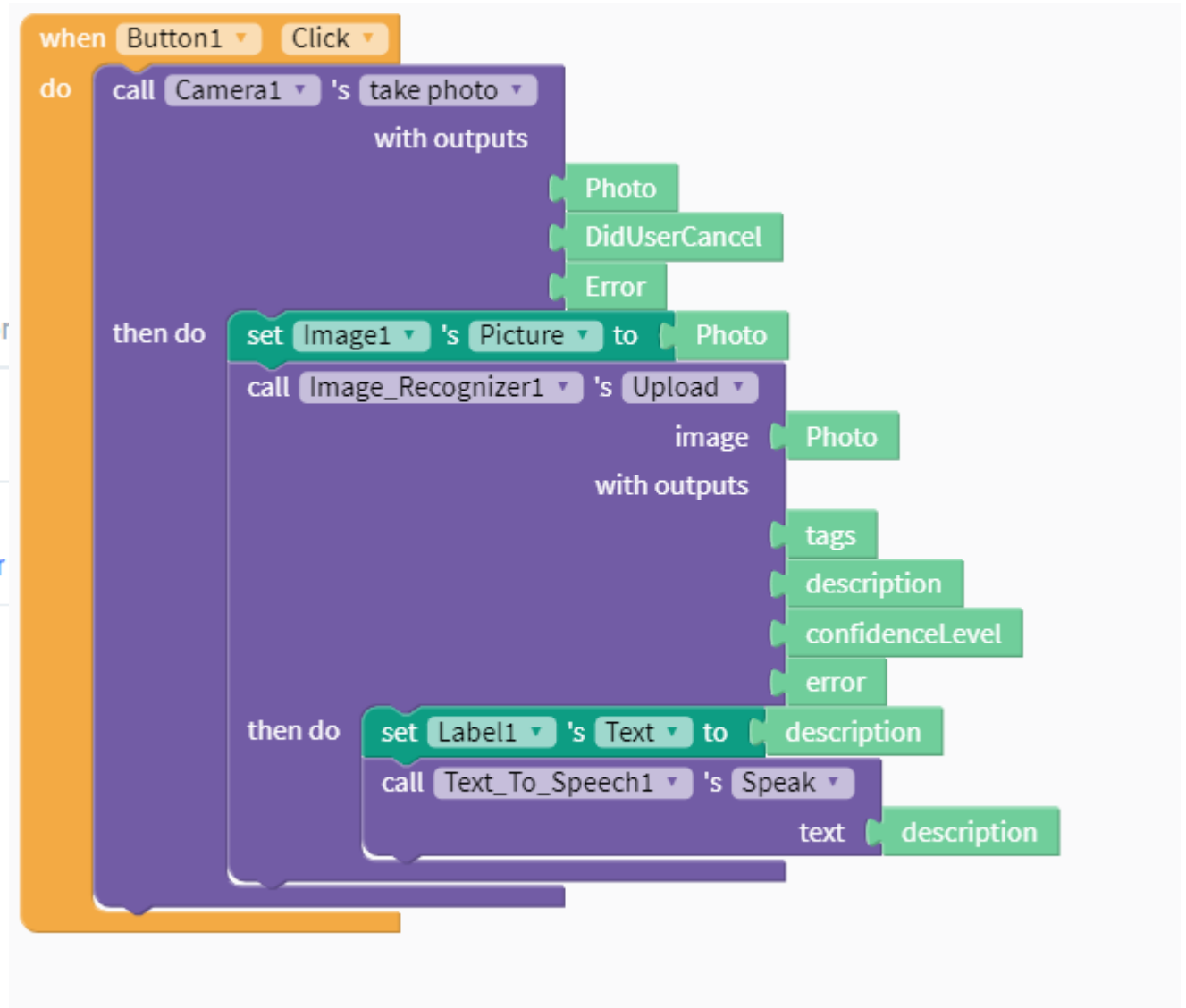
Automatic formatting for deployment to all three major platforms. Make your app available everywhere with publishing to:

- Native Android devices
- Native iOS devices
- Mobile Web

<https://thunkable.com>

AI services

	Visual Perception	Speech Recognitor
		
Thunkable component	Microsoft Image and Emotion Recognizer	Speech Recognizer



CUHK Jockey Club AI for the Future Project 中大賽馬會「智」為未來計劃

Chapter03_EM_12_WS_能力強化工作紙.docx

English

Chapter03_EM_01_Eng.pptx

Chapter03_EM_02_Experiment_Guideline_Eng.pptx

Chapter03_EM_03_Blockly_Guideline_Eng.pptx

Chapter03_EM_04_JupyterNotebook.url

Chapter03_EM_05_API_Eng.pptx

Chapter03_EM_06_API_documentation_Eng.docx

Chapter03_EM_07_AppInventor_Eng.pptx

Chapter03_EM_08_AppInventor.url

Chapter03_EM_09_Color_Code_Classes.pdf

Chapter03_EM_10_color_coding.csv

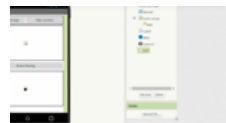
Chapter03_EM_11_Scene_Parse.aia

Chapter03_EM_12_WS_Eng.docx

Video

Chapter03_EM_04_JupyterNotebook.mp4

Chapter03_EM_08_AppInventor.mp4



Step 25: Press 'URL' button and enter the following link in the URL box:
`'https://bit.ly/3AeSzTY'`
Press 'Import'



Step 27: Press the 'Blocks' button to switch to coding block interface.



23

24

Programming the App

We will then set up the color code dictionary.

27

Programming the App

Step 30: From 'Screen1' drag 'when Screen1.Initialize do' onto the Viewer.
This block will run at the start of the app.

Step 31: From 'File1' drag 'call File1.Readfrom' inside the 'when Screen1.Initialize do' block. Attach an empty string block from 'Text' to 'call File1.Readfrom' block. Change the string to `'//color_coding.csv'`



28

Programming the App

Step 34: Drag a 'get' block from 'Variables' and fit it next to 'in dictionary' slot in 'set value for' block. Select 'global color_code' from the drop-down list.



31

Programming the App

Step 35: From 'Text' attach 'join' block to 'set value for key' block and set it to join five strings. Drag 'select list item' block from 'List' and fit it next to the first slot in 'join' block. Drag 'get item' block from 'for each item in list' block and place it next to 'list' slot in 'select list item' block. Drag a zero number block from 'Math' and fit it next to 'index' slot in 'select list item' block and set it to 1.



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FOR S2
MAKE USE OF AI



中國居民牽電動車進電梯想回家充電， 電梯門一關瞬燃爆炸超恐怖

Electric Bike Explodes in Crowded Elevator Burning Everyone Inside

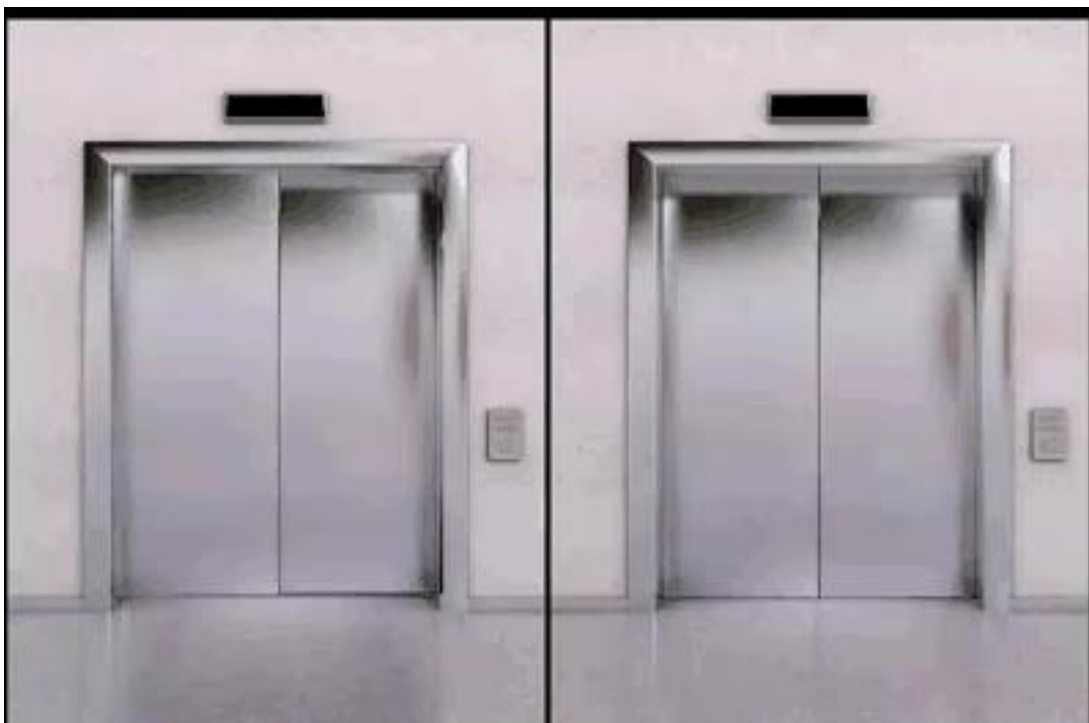


5月10日晚
成都市成华区丛树家园小区
一电瓶车进入电梯后突然起火

中國居民牽電動車進電梯想回家充電，電梯門一關瞬燃爆炸超恐怖 | T客邦
(techbang.com)

[Electric Bike Explodes in Crowded Elevator Burning
Everyone Inside \(newsweek.com\)](http://newsweek.com)

Application of AI



人工智能-楚纳-电动车进电梯识别装置 - 知乎 (zhihu.com)

智能摄像头实景



电梯智控系统 - 充电桩系列 - 济宁中科先进技术研究有限公司 (jiaat.ac.cn)

Chapter 3 & 11 Autonomous vehicles



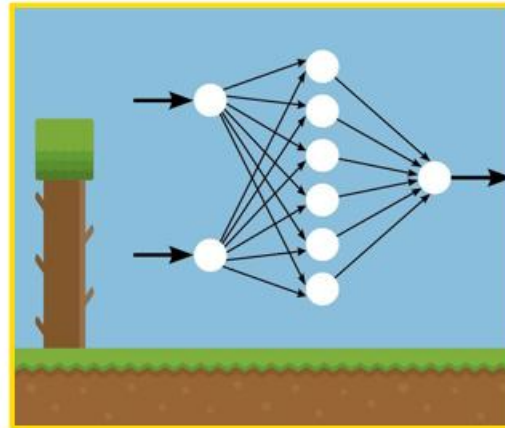
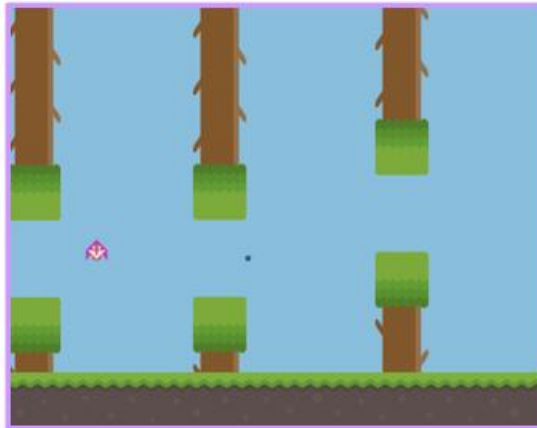


STUDENTS COULD STUDY PRINCIPAL



Chapter 8

Task 1

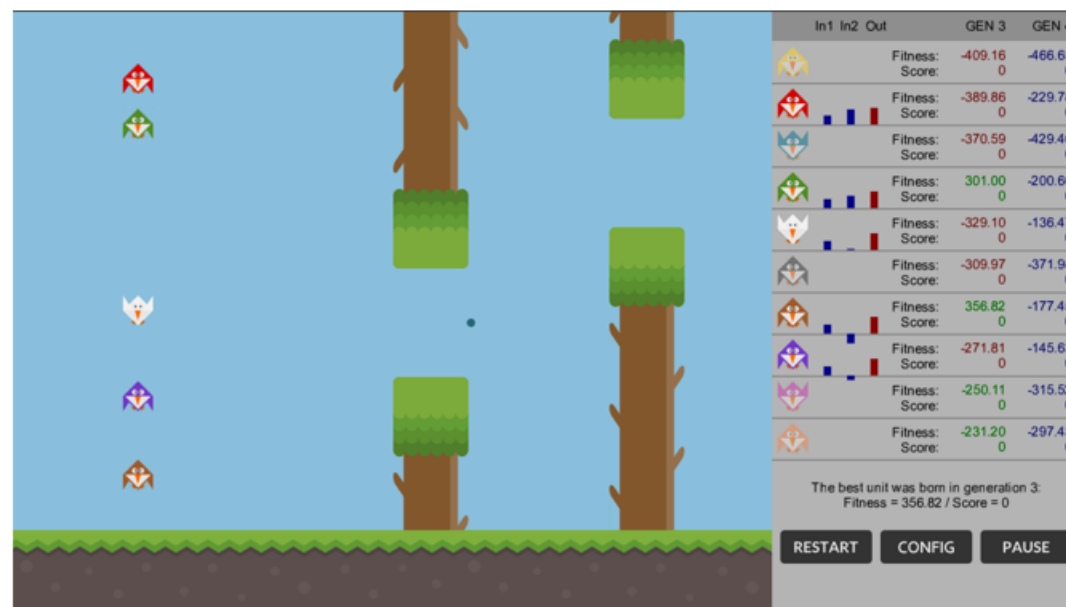


What is the observation? What is the possible action in this game?

Observation	
Action	
Objective of auto gameplay	

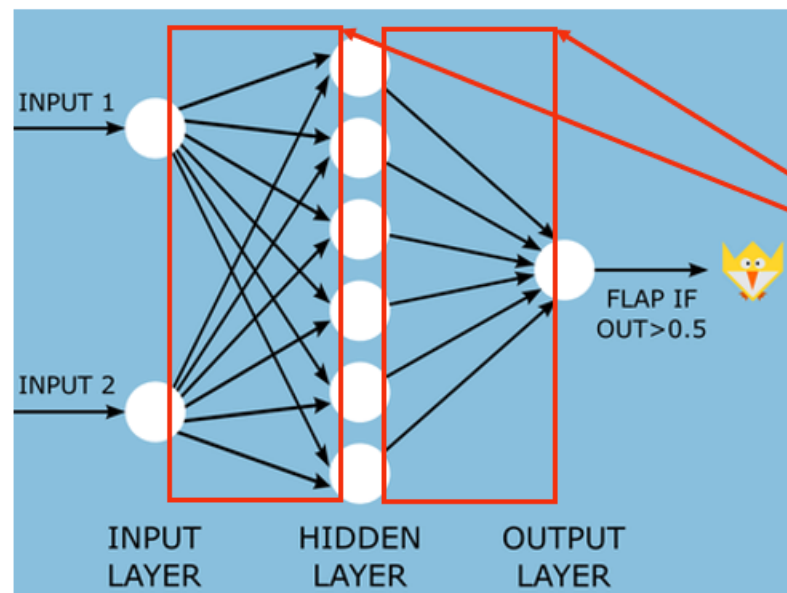
Training the Flappy Bird AI

We aim at a self-learning system to play the flappy bird game



Optimization of the AI

We apply genetic algorithm to optimize the neural network parameters:




optimize

The fitness
(total travelled distance -
distance to the closest gap)


Game Interface

First of all, the game is now tunable by clicking the “CONFIG” button on the right bottom. By clicking the button, we can see an interface as follows:


Numbers of winning birds to be kept for the next round: **4 (1-10)**

A horizontal blue slider bar with a white knob positioned at the 4th mark from the left.

Numbers of birds to be created from crossover for the next round: **4 (0-6)**

A horizontal blue slider bar with a white knob positioned at the 4th mark from the left.

Mutation rate (percentage): **5%**

A horizontal blue slider bar with a white knob positioned at the 5% mark from the left.

OK (The game will be restarted)

User Manual for Chapter 3 “See” Interacti

The Main Notebook

The main notebook focuses on the visualization of deep visual recognition pipeline. As we have deep visual recognition in the “knowledge” section, we will take a closer look at the deep neural network in this notebook.

Step 1: Environment preparation

Similar to the content we illustrate in the slideshow, we implement the evaluation of our deep learning model, including *tensorflow*, *matplotlib* (a tool for plotting and visualisation), *processing* and some miscellaneous packages (like system functions etc.)

The users will receive a message prompting that the import for

Step 2: Location for the dataset

We have shipped a read-only version of the dog vs. cat dataset samples, 2,000 evaluation samples and 2,000 test samples.

The location of these dataset is following UNIX location convention to indicate their location (we can change it afterwards if we want).

```
# Note that you can change the location if you would like
# This is the default location
train_dir = './chpt3/chpt3_train'
test_dir = './chpt3/chpt3_test'
validation_dir = './chpt3/chpt3_valid'

print("Successfully set the location of the dataset.")
```

While the true folder structure is shown as:

```
subfigure = showing.add_subplot(1, 1, 1)
subfigure.imshow(show_testing)
plt.show()
```

The above code randomly chooses one sample image from the testing dataset. Note that the format of the image selection is:

`f"./chpt3/chpt3_test/{'cat' if random.random()>0.5 else 'dog'}/{random.randint(1000,1999)}.jpg"`

Location of the test
set folder

Randomly choose a subfolder from
'cat' or 'dog'

Randomly select from
{1000.jpg - 1999.jpg}

If we want to test new images, for example, upload a new image, we can upload from the Jupyter notebook to the chapter3 folder of the JupyterHub:

Select items to perform actions on them.

0 / Chapter_3_IN_Experiment_Guideline_EN

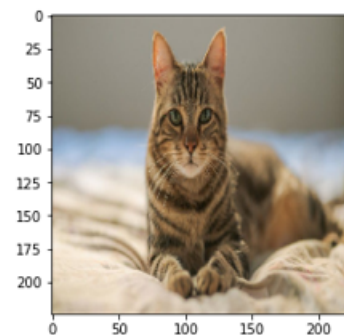
cat.jpg

Upload

Cancel

```
In [6]: # You can change to any other images, or even upload your own testing cases, just specify the file location.
# a sample image path -> img_path = f"./chpt3/chpt3_test/cat/1024.jpg"
#img_path = f"./chpt3/chpt3_test/{'cat' if random.random()>0.5 else 'dog'}/{random.randint(1000,1999)}.jpg"
img_path = './cat.jpg'
```

After upload, we can specify the location simply as: './cat.jpg'



We can see that the cat image is successfully loaded and we can afterwards predict the label of the cat from the bottom code block with the function *model.predict()*.

It is a cat with the probability of 99.99936173635433%.



STUDENTS CAN CODE

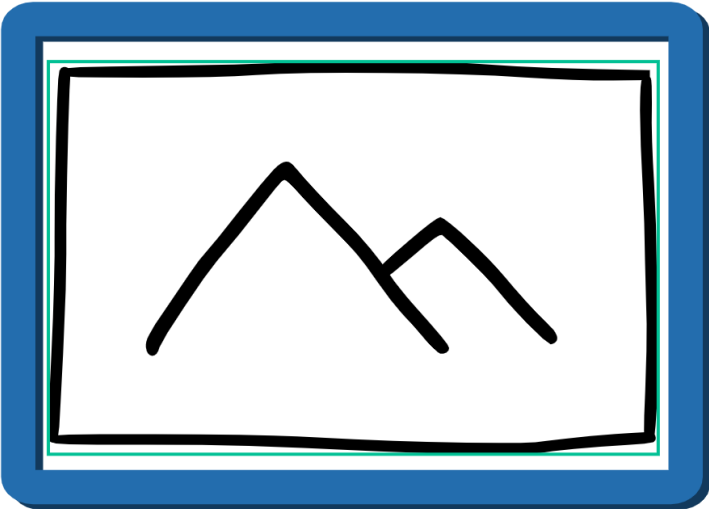


support us

ICJ2020_ImageURLAnalysisWithAzureAndWickEditor

new open export save

Analyzing Images with Microsoft Azure!



Tags:
Tags:
Tags:

Description: text

Add an image link here!

Analyze

Inspector

Asset Library

filter...

Nunito.ttf

Wendy One.ttf

Project

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interactive

background

This update script is constantly attempting to update the description and tags within our app. Lines 1-2 update the description element in the project. This utilizes the value `imageAPI.description`.

Update

+

```
1 // Update the descriptionText, if we have one.  
2 descriptionText.setText(imageAPI.description);  
3
```

Lines 4-7 set each tag item individually. These tags utilize the values within `imageAPI.tags`. The `imageAPI.tags` value can store any number of tags.

```
4 // Update our tags, if we have them.  
5 tag1.setText("Tag 1: " + imageAPI.tags[0]);  
6 tag2.setText("Tag 2: " + imageAPI.tags[1]);  
7 tag3.setText("Tag 3: " + imageAPI.tags[2]);
```

Analyzing Text with Microsoft Azure!

Analyzing Text with Microsoft Azure!



Sentiment

Use of AI is good f

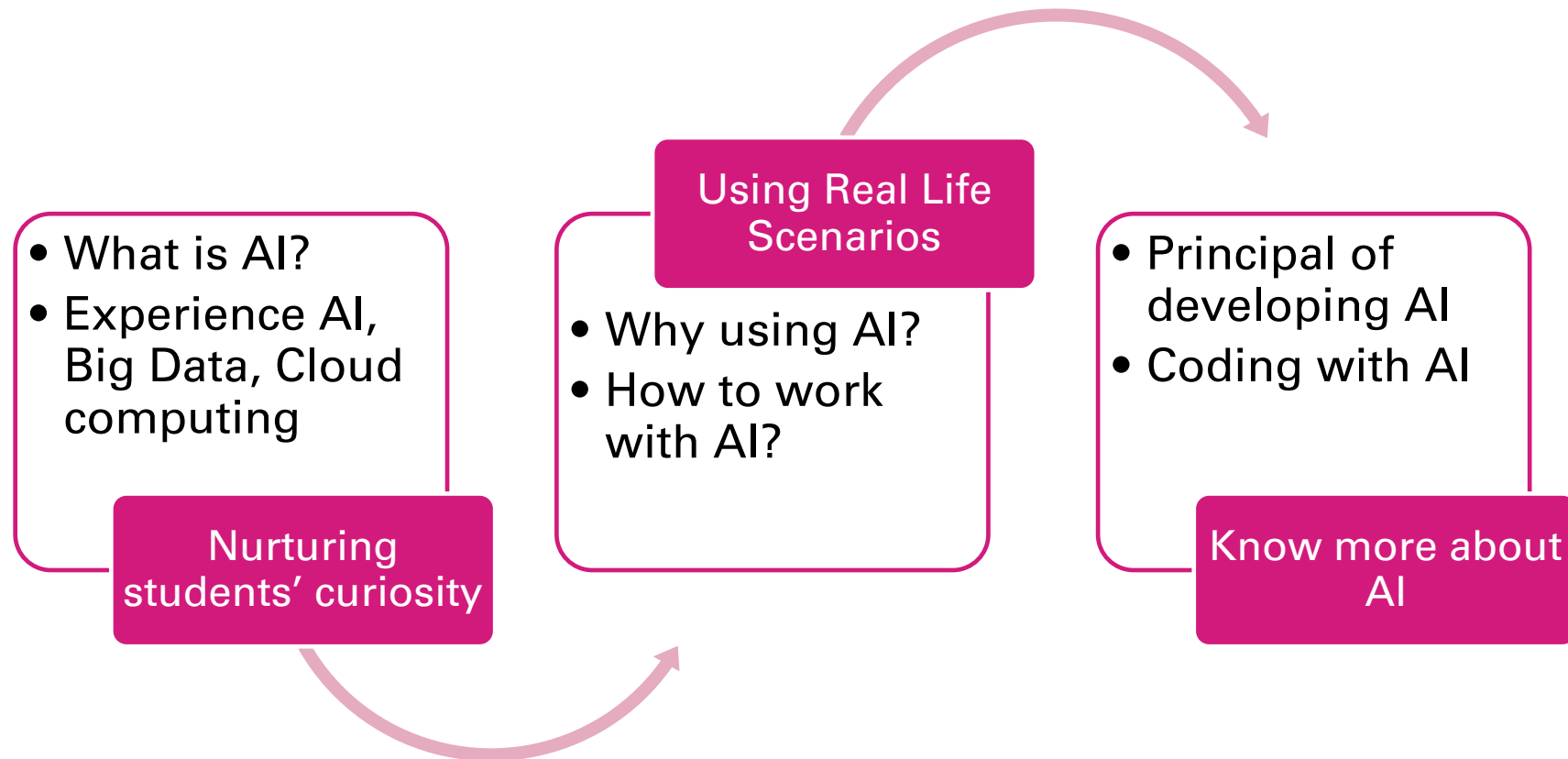
Sentiment (0 to 1): 0.31

Language: English

Gun is found in a secondary school.

Analyze!

Planning is the key to success



THANKS!

