

LEARN FOREIGN LANGUAGES WITH AI

24 April 2021

Welcome!

- We are glad to have many language lovers with us today.
- We are going to discuss a few **FREE** **multilingual tools** that help you with language learning.



About this talk

- This talk is intended for secondary school students in Hong Kong.
- We have the following arrangements:
 - Presentation in Cantonese
 - PowerPoint Slides in English

About Me

Dr Sai Cheong SIU

School of Translation and Foreign Languages

**Research: Technology for Translation, Interpreting,
Language Services and Digital Entertainment**

More about our School

Established in 2010, we offer

- Bachelor of Translation with Business Programme
- Minor in Translation Programme
- Minor in European Studies Programme
- Master of Arts in Translation (Business and Legal) Programme
- Master of Arts in Translation (Computer-Aided Translation) Programme



翻譯及外語學院
SCHOOL OF TRANSLATION AND
FOREIGN LANGUAGES
香港恒生大學
THE HANG SENG UNIVERSITY
OF HONG KONG

HSUHK Business Translation Index

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Type and Search

Record: technical analysis



Multilingual Terms/Expressions



(en)

Technical analysis

👍 0 👎 0



(zh-hk)

技術分析

👍 0 👎 0



(zh-cn)

技术分析

👍 0 👎 0



(zh-tw)

技術分析

👍 0 👎 0



(fr)

Analyse technique

👍 0 👎 0



(jp)

テクニカル分析

👍 0 👎 0

PROJECT 1: HSUHK BUSINESS TRANSLATION INDEX

PROJECT 2: IPOTRANSLATE



What's IPOTranslate?

IPOTranslate is a web-based platform for computer (-aided) translation of prospectuses for Initial Public Offerings (IPOs) from English into Chinese. The system is the product of a machine translation project supported by the Innovation Technology Fund (Project title: Machine Translation of IPO Documents (ITF/238/17)), which was completed in May 2019 and aimed to explore the possibilities of supporting the translation of IPO documents by applying deep learning technology.

IPO Translate (English-Chinese Translation)	
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Load Sample	Translate
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Translation 1 香港交易所及結算有限公司、香港聯合交易所有限公司及香港證券結算有限公司對本招股章程的內容概不負責，對其準確性或完整性概不發表任何聲明，並明確表示概不就因本招股章程全部或任何部分內容而產生或因依賴該等內容而產生的任何損失承擔責任。	Translation 2 香港交易所及結算有限公司、香港聯合交易所有限公司及香港證券結算有限公司對本招股章程的內容概不負責，對其準確性或完整性概不發表任何聲明，並明確表示概不就因本招股章程全部或任何部分內容而產生或因依賴該等內容而產生的任何損失承擔責任。
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**Learning a new language is fun
but challenging.**

**Artificial Intelligence (AI) may
help.**

Outline

1. AI and Language Processing: An Overview

2. Language Learning Apps

3. Multilingual Dictionaries

4. Text/Video Databases

5. Machine Translation

1. AI and Language Processing: An Overview

Artificial Intelligence (AI)



Gaming



Computer Vision



Forecasting



Artwork

AI: Language- related Areas



Text Retrieval



Language Modelling (finding the probability of a sequence of words; predicting the next word)



Machine Translation

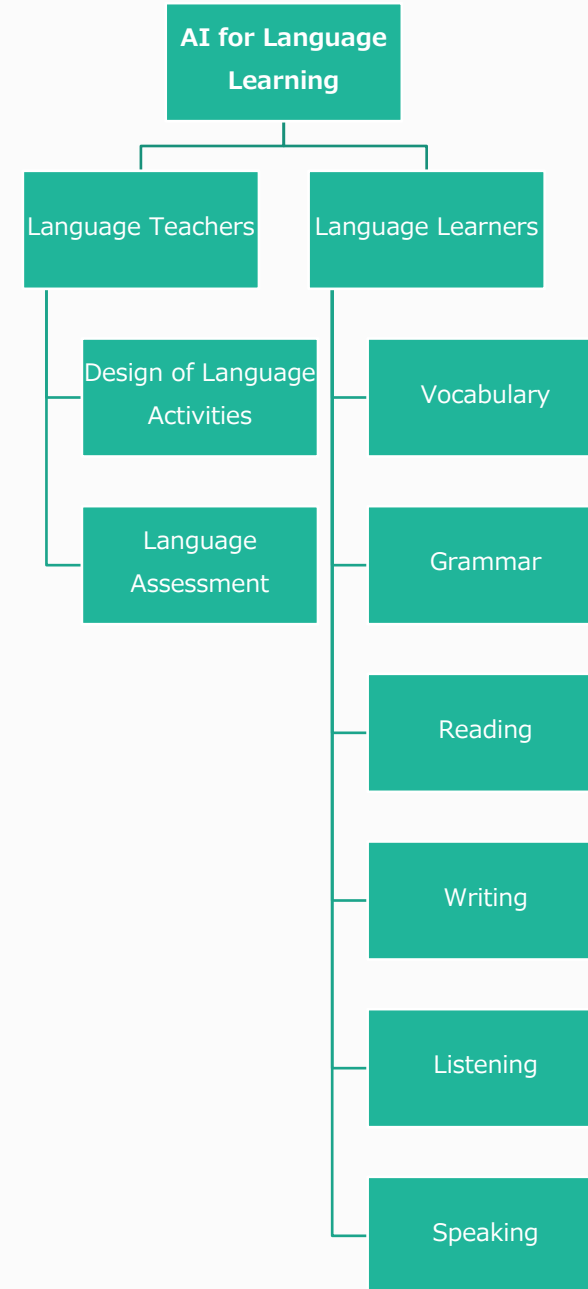


Speech Recognition



Speech Synthesis

Tool Types





AI for Language Learning: Strengths

- **Gamification**
- **Personalized/Adaptive Learning**
- **More Practice Opportunities**

Key Points



You still need to work hard!



**Good teachers are still
important!**

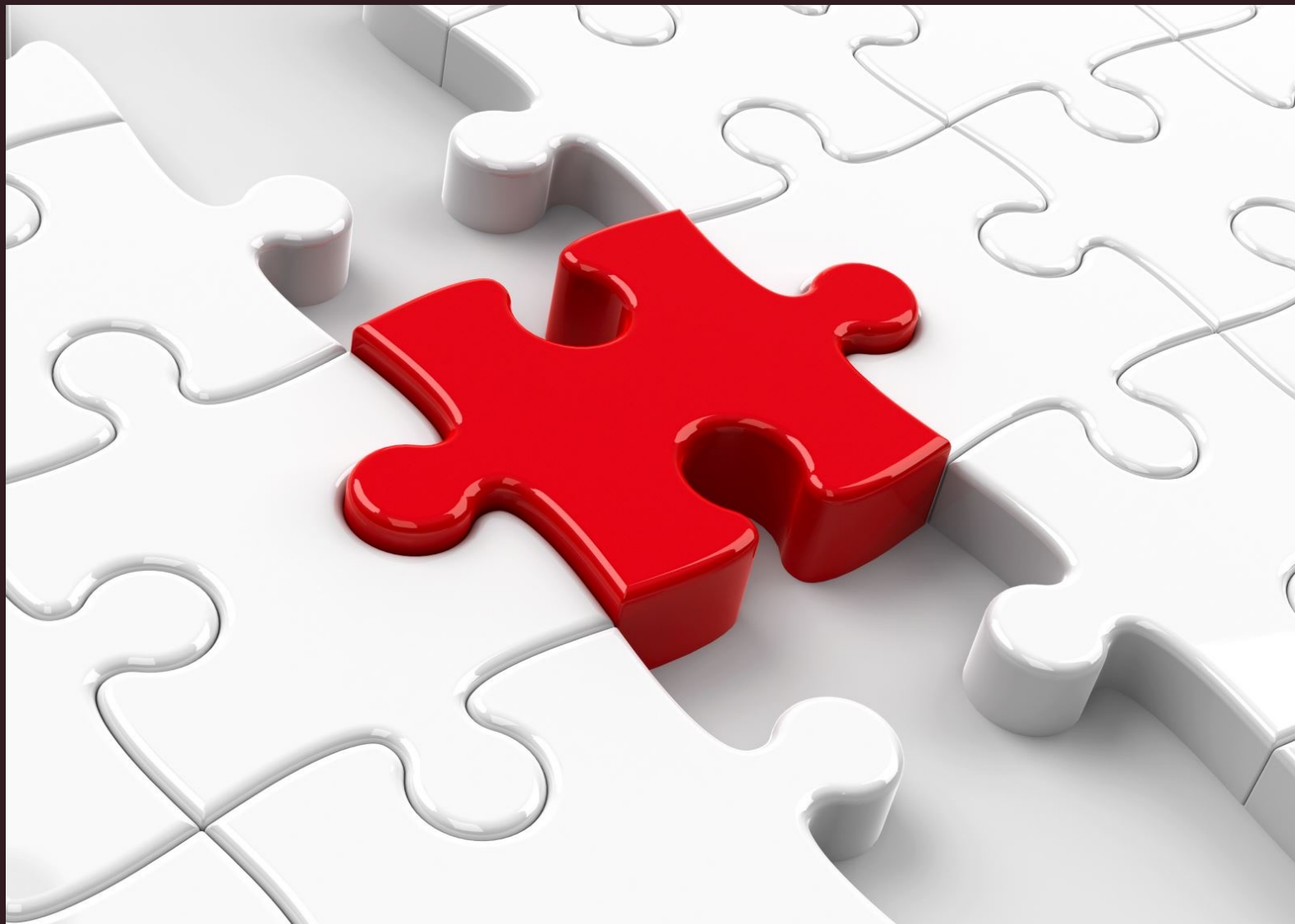


**AI can't replace interpersonal
communication!**

2. Language Learning Apps

Key Features

- **Vocabulary and Grammar**
- **Interactive Elements**
- **Review**



Example 1

Duolingo

<https://www.duolingo.com>



Example 2

Memrise

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



3. Electronic Dictionaries



Example 1

Collins Dictionary

<https://www.collinsdictionary.com/dictionary/>
L

Example 2

Cambridge Dictionary

<https://dictionary.cambridge.org/dictionary/>



Example 3

WordReference.com

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



Example 4

bab.la

<https://en.bab.la/>



Example 5

Wiktionary

<https://www.wiktionary.org/>



4. Text/Video Databases

Retrieval of examples of sentences /
video clips containing the expressions
specified by the user

**They help
learners ...**

Find/analyze useful expressions



Get familiar with them

Example 1

Tatoeba

<https://tatoeba.org/eng/>





Example 2

Reverso

<https://context.reverso.net/translation/>

Example 3

Google Ngram Viewer

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



Example 4

Youghish

<https://youghish.com/>



Example 5

Captionpop

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



5. Automatic Translation Platforms

also Known as Machine Translation
(MT)

Common Features: More than MT

MT as a tool for writing training?
Yes!! We're building a system for
this. Stay tuned 😊



**AUTOMATIC
TRANSLATION**

Simple and
general
expression



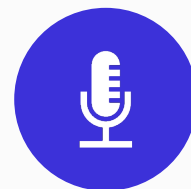
**LEXICAL
EXPLANATION**

Vocabulary
building



**HANDWRITING
INPUT**

Writing
systems



**SPEECH
RECOGNITION**

Pronunciation



**SPEECH
SYNTHESIS**

Listening



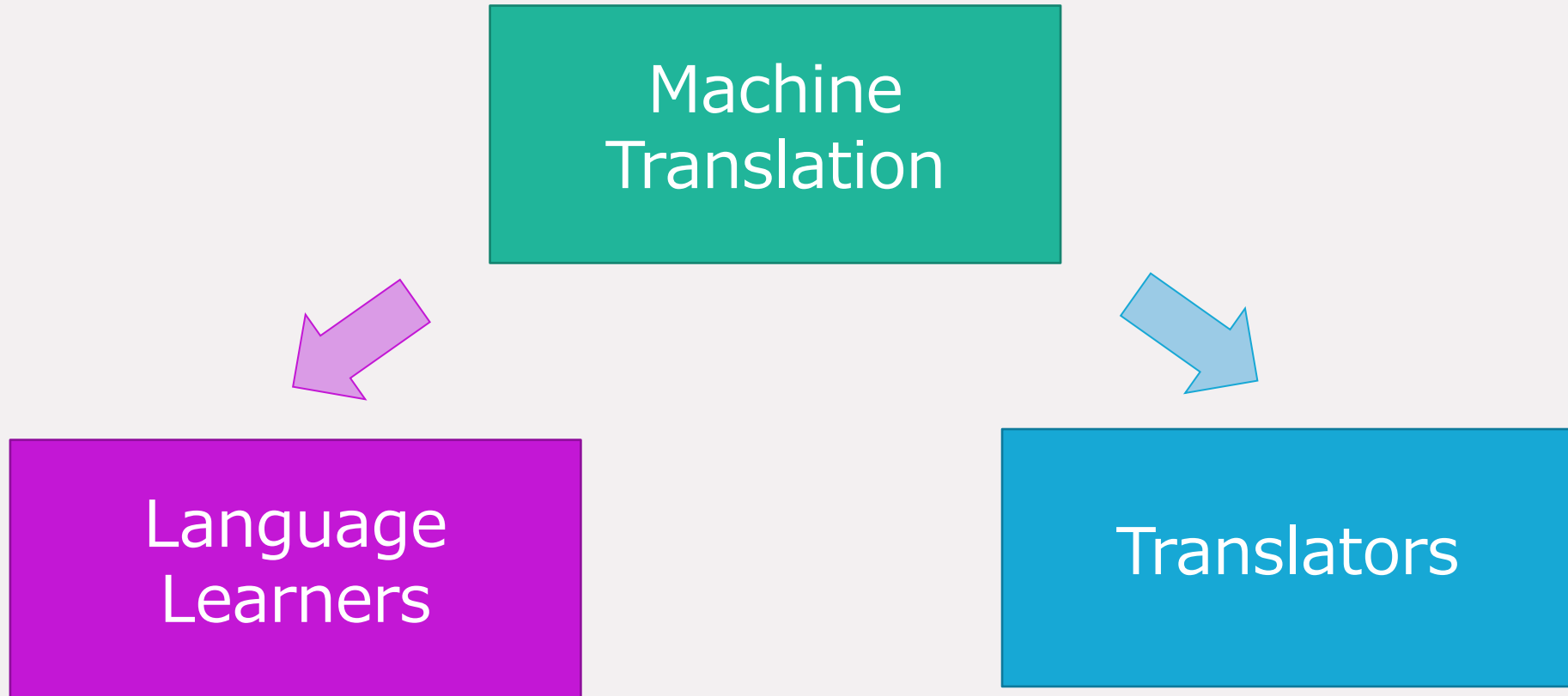
**WEB
TRANSLATION**

Reading

Four Ways to Build Automatic Translation Systems

1. Rule-based Machine Translation
2. Example-based Machine Translation
3. Statistical Machine Translation
4. Neural Machine Translation





Different skills



Tip 1: Multiple engines

Compare the translation results of different platforms

Example 1

Google Translate

<https://translate.google.com/>



Example 2

Yandex Translate

<https://translate.yandex.com/>



Example 3

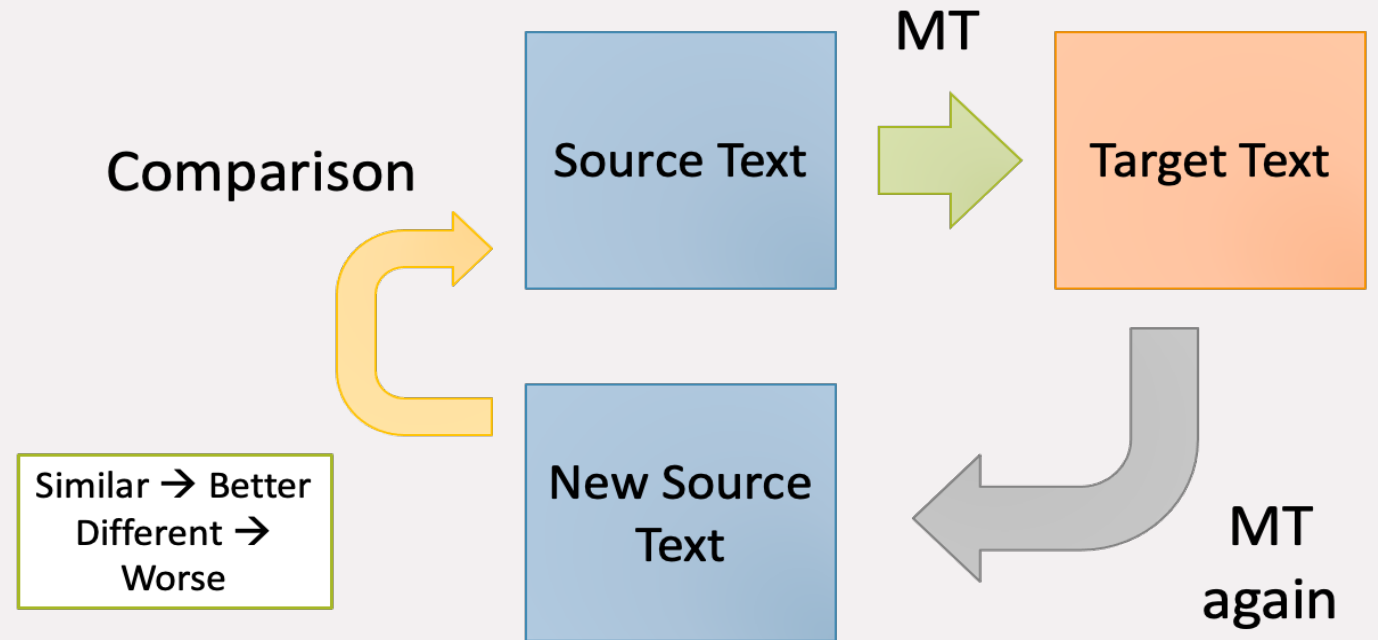
Baidu Translate

<https://fanyi.baidu.com/>



Tip 2: Round-trip Translation

Estimating the quality
of automatic translation
without knowledge of
the target language



**There are still many other
interesting tools**

Examples

- 1. Monolingual/Bilingual tools for Specific Languages / Purposes** (e.g., Tools for Learning Chinese characters / Cantonese Expressions / Medical English / Japanese Vocabulary)
- 2. Computer-aided Reading and Writing**
- 3. AI for Foreign Language Teaching** (e.g., computer-aided language assessment)

We can discuss them later.

Thank you!
