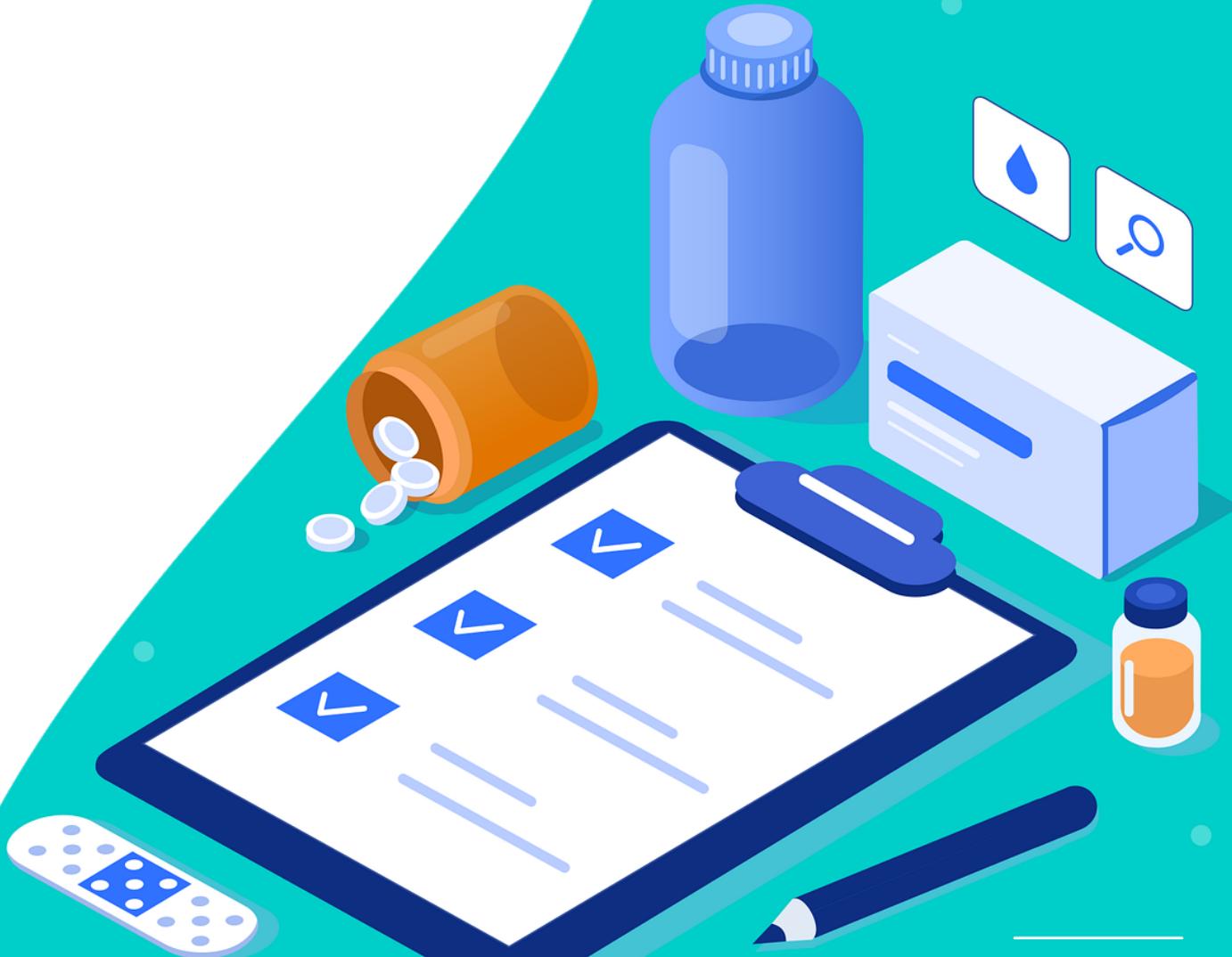


Technology for Medical Translators

Sai-cheong SIU

School of Translation and
Foreign Languages



Emerging Trends



Medical Translation



Translation for Virtual Events



Translation for e-Commerce and Social Shopping



Translation for Digital Entertainment

Outline



1. Medical Translation



2. Translation
Technology



3. Electronic tools for
Medical Translators



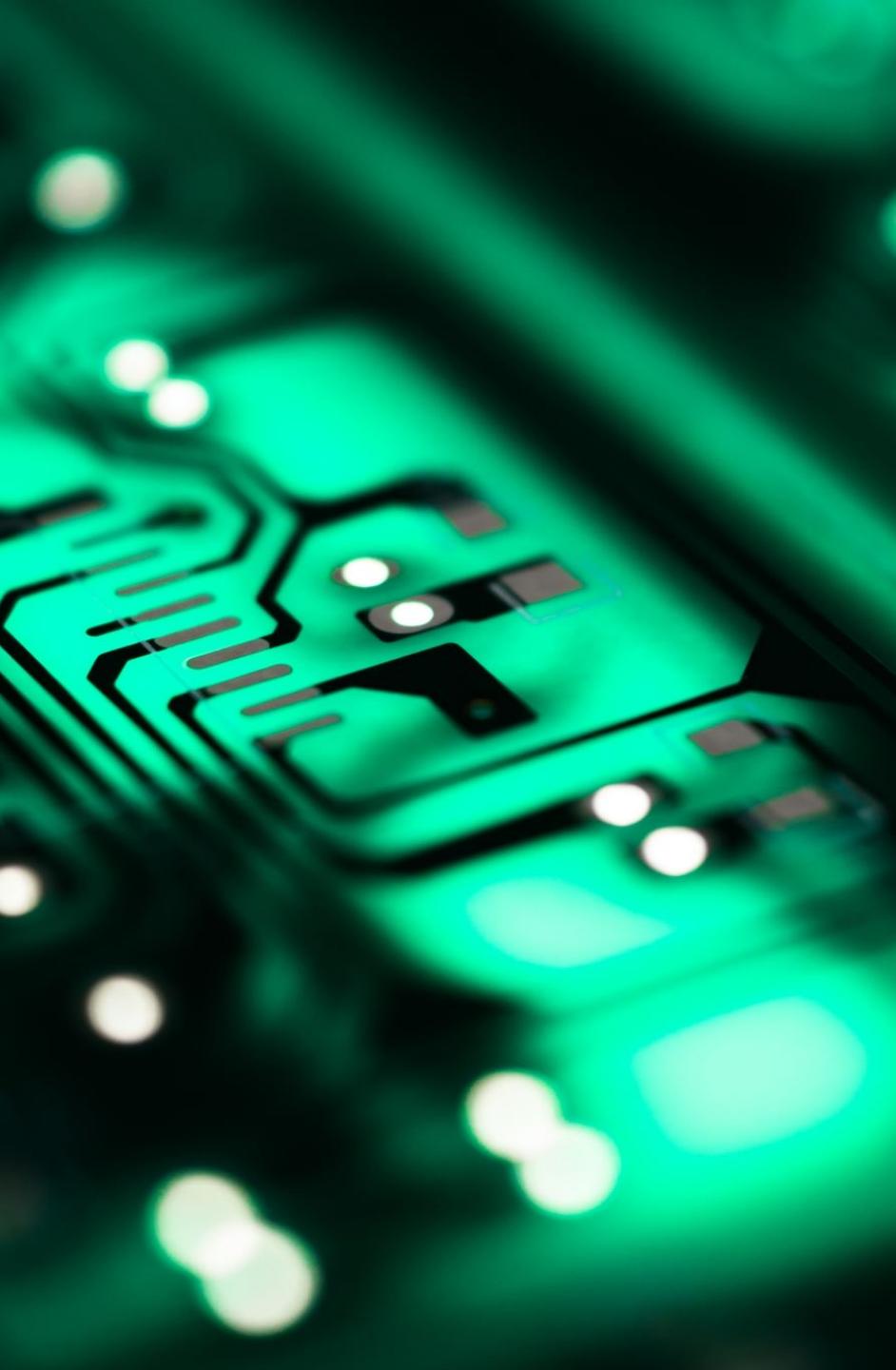
About Our School

School of Translation and Foreign Languages

1. Bachelor of **Translation with Business**
2. Master of Arts in Translation (**Business and Legal**)
3. Master of Arts in Translation (**Computer-aided Translation**)
4. Minor in **Translation**
5. Minor in **European Studies**

About Me

- Dr. Sai-cheong SIU (scsiu@hsu.edu.hk)
- Associate Professor, School of Translation and Foreign Languages
- Program Director, Master of Arts in Translation (Computer-aided Translation) Program
- Program Director, Bachelor of Translation with Business Program



My Research Areas

- Technology for Translators, Interpreters and Language Professionals
- Artificial Intelligence for the Creative Industries and Digital Media

Project 1: HSUHK Business Translation Index



HSUHK Business Translation Index

[Home](#) [About Us](#) [Feedback](#) [Contact Us](#) [中文](#)

Type and Search

technical analysis

Go

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 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)

Source Text

Hong Kong Exchanges and Clearing Limited, The Stock Exchange of Hong Kong Limited and Hong Kong Securities Clearing Company Limited take no responsibility for the contents of this Prospectus, make no representation as to its accuracy or completeness, and expressly disclaim any liability whatsoever for any loss however arising from or in reliance upon the whole or any part of the contents of this Prospectus.

A copy of this Prospectus, having attached thereto the documents specified in 'Appendix V — Documents Delivered to the Register of Companies and Available for Inspection' to this Prospectus, has been registered by the Registrar of Companies in Hong Kong as required by section 34(2) of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Chapter 32 of the Laws of Hong Kong). The Securities and Futures Commission and the Registrar of Companies in Hong Kong take no responsibility for the contents of the Prospectus or any other document referred to above.

Translate

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Translated Text

香港交易所有限公司、香港联合交易所有限公司及香港中央结算有限公司对招股章程的内容不承担任何责任，概不就其准确性或完整性作出任何声明，并特别声明本公司对招股章程的内容不承担任何责任。如果读者对本招股章程的任何部分有疑问，应向香港交易所有限公司、香港联合交易所有限公司及香港中央结算有限公司咨询，或向有关专业人士寻求意见。本公司不对本招股章程所载的全部或任何部分承担责任，並明確表示不會對本公司招股章程所載的任何部分或全部產生或認為產生任何法律責任。

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Supported by the Innovation and Technology Fund,
the Innovation and Technology Commission

A screenshot of a web browser window titled "IPO Translate (English-Chinese Translation)". The address bar shows the URL "ipotranslate.tk". The page content includes a source text section with two tabs: "Load Sample" and "Translate". Below this are four translation pairs, each consisting of a "Translation 1" and "Translation 2" box. The first pair contains a disclaimer from the Stock Exchange of Hong Kong. The second pair contains a note about document registration. The third pair contains a note about the Securities and Futures Commission. The fourth pair contains a note about the Registrar of Companies.

IPO Translate (English-Chinese Translation)

Source Text

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Load Sample

Translate

Hong Kong Exchanges and Clearing Limited, The Stock Exchange of Hong Kong Limited and Hong Kong Securities Clearing Company Limited take no responsibility for the contents of this Prospectus, make no representation as to its accuracy or completeness, and expressly disclaim any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this Prospectus.

Translation 1

香港交易及結算有限公司、香港聯合交易所有限公司及香港證券結算有限公司就本招股章程的內容概不承擔任何責任，概不就其準確性或完整性表示任何聲明，並明確概不就本招股章程所載的全部或任何部分產生的任何虧損而產生的任何損失承擔責任。

Translation 2

香港交易及結算所有限公司、香港聯合交易所有限公司及香港中央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任何責任。

A copy of this Prospectus, having attached thereto the documents specified in "Appendix V — Documents Delivered to the Registrar of Companies and Available for Inspection" to this Prospectus, has been registered by the Registrar of Companies in Hong Kong as required by section 342C of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Chapter 32 of the Laws of Hong Kong).

Translation 1

本招股章程的副本連同本招股章程「附錄五一送呈公司註冊處處長及備查文件」所載文件所附的文件，已根據公司（清盤及雜項條文）條例第342C 條（香港法例第32章）的規定於香港公司登記。

Translation 2

本招股章程副本連同本招股章程「附錄五一送呈公司註冊處處長及備查文件」所述文件，已根據公司（清盤及雜項條文）條例（香港法例第32章）第342C 條的規定由香港公司註冊處處長登記。

The Securities and Futures Commission and the Registrar of Companies in Hong Kong take no responsibility for the contents of this Prospectus or any other document referred to above.

Translation 1

證券及期貨事務監察委員會及香港公司註冊處處長概不就本招股章程或上文所述任何其他文件的內容負責。

Translation 2

證券及期貨事務監察委員會及香港公司註冊處處長對本招股章程或上述任何其他文件的內容概不負責。



Project 3: GovPRTranslation

The screenshot shows a dark-themed website for a research project. At the top left, there is a small green rectangular button. The top right corner features a navigation bar with "Home" and a search icon. The main title "Technology for the Translation of Government Press Releases" is centered in large white font. Below the title, a subtitle reads: "Website for the Project "A Hybrid Approach to the Translation of Government Press Releases: Integration of Translation Memories and Neural Machine Translation"" and "The work described in this website was fully supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (Project No. UGC/FDS14/H16/18)." A "Learn more" button is located at the bottom of this section. In the bottom left corner of the page, there is a small circular icon with an 'i' symbol.

Tech for Translation of Govt Press Relea...

Home

Technology for the
Translation of
Government Press
Releases

Website for the Project "A Hybrid Approach to the Translation of Government Press Releases: Integration of Translation Memories and Neural Machine Translation"

The work described in this website was fully supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (Project No. UGC/FDS14/H16/18).

Learn more

(i)

Supported by the Faculty Development Scheme,
the Research Grants Council

Medical Translation



Medical Translation



1. Interpreting



2. Written Translation

1. Interpreting



Medical consultations



Public talks and seminars



Professional conferences

1. Interpreting



In-person interpreting



Remote interpreting

2. Written Translation

Medical records

Public health information

Research / clinical trial documentation (e.g., protocols, ICFs, and CRFs)

Scientific publications (e.g., journal articles and reports)

Documentation of drugs and medical devices (e.g., package inserts and manuals)

Training materials

Healthcare web pages, videos and apps

Significance



Personal health and
wellness



Public health



Research and
development

Be a successful medical translator



Language Skills



Translation Skills



Cultural Sensitivity

Be a successful medical translator

Ethics

Medical communication skills

Terminology

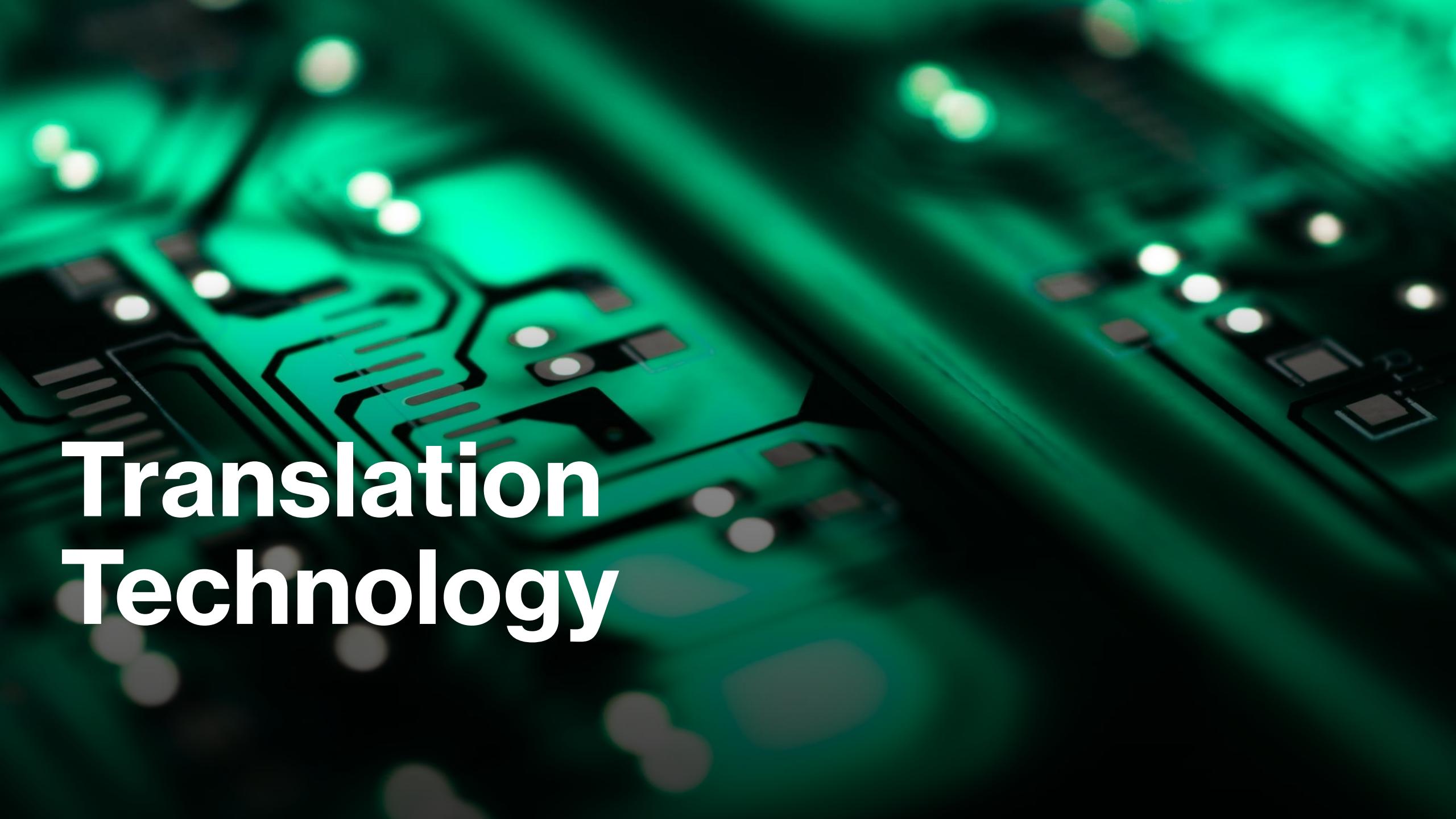
Domain knowledge (e.g., health literacy, healthcare systems, research process, and medical legislation)

Continuing professional development



**Be a
successful
medical
translator**

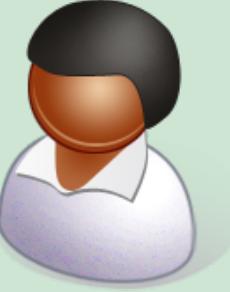
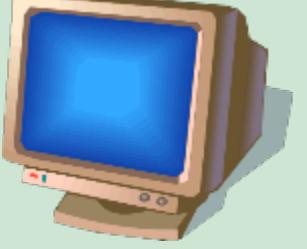
Technology:
For accuracy, speed
and informed
decisions



Translation Technology

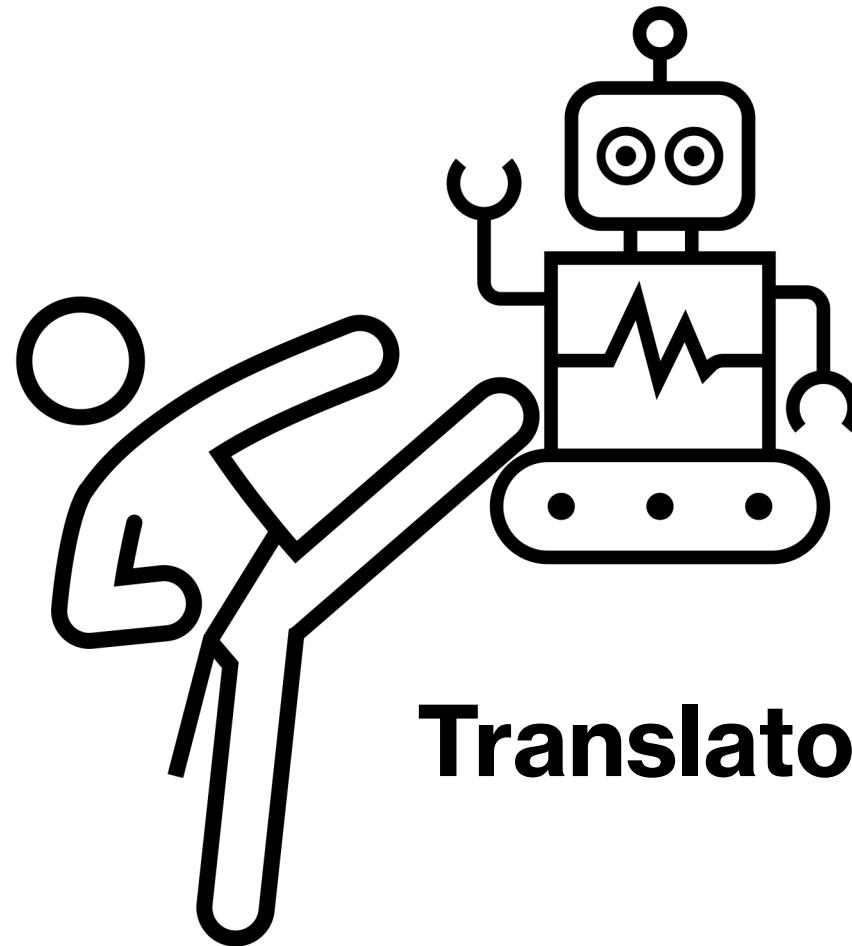
Key Question 1

- Is translation technology just about automatic translation?

	Translation Technology		
	Computer (-aided/-assisted) Translation (CAT)	Computer Translation	
			
Human Translation	Machine- aided/assisted Human Translation (MAHT)	Human- aided/assisted Machine Translation (HAMT)	Machine Translation (MT)
	Computer- aided/-assisted Translation (CAT)		Automatic Translation

Key Question 2

- Will human translators be replaced by translation technology?



Translator VS AI



Electronic Tools for Medical Translators



A Framework for Technology for Medical Translators: 6 Key Areas



Processing and analyzing source files / documents



Translating medical terminology



Preparing translation drafts



Editing translation drafts



Facilitating project management and collaboration



Building up medical knowledge

15 Types of Tools

Specialized
dictionaries

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Specialized Dictionaries



Monolingual dictionaries



Bilingual/multilingual
dictionaries

Tool 1

- Medical Dictionary (Merriam-Webster):
<https://www.merriam-webster.com/medical>



Tool 2

- Medical Dictionary: <https://medical-dictionary.thefreedictionary.com/>



Tool 3

- Medical Dictionary of Health Terms:
<https://www.health.harvard.edu/a-through-c>



Tool 4

- Plain Language Medical Dictionary:
<https://apps.lib.umich.edu/medical-dictionary/>



Tool 5

- Taber's Medical Dictionary Online:
<https://www.tabers.com/tabersonline/>



Tool 6

- Concise Medical Dictionary:
<https://www.oxfordreference.com/view/10.1093/acref/9780198836612.001.0001/acref-9780198836612>



Tool 7

- Dorland's Illustrated Medical Dictionary:
<https://www.dorlandsonline.com/dorland/home>



Tool 8

- Stedman's Online: <https://stedmansonline.com/>



Tool 9

- English-Chinese Medical Dictionary:
<https://esaurus.org/>



Tool 10

- Business Translation Index:
<http://www.hsuhkbt.com/>



Tool 11

- A Handbook of Practical Medical Terms (English Chinese), Fourth Edition (E-book):
<https://play.google.com/store/books/details?id=8Ny p9v0P4dMC>



15 Types of Tools

Specialized
dictionaries

Machine
translation

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Machine Translation



Automatic Translation



Example 1: Online
translation tools



Example 2: Translation apps

Four Ways to Build Machine Translation Systems

- I go to school by train.
- I go to school by taxi. 我乘計程車去學校。
- 我乘火車去學校。



Rule-based Machine Translation

- I go to school by train.
- 我 / 去 / 學校 / 乘 / 火車 / 。
- 我乘火車去學校。



Example-based Machine Translation

- Deep Learning
- Artificial neural networks

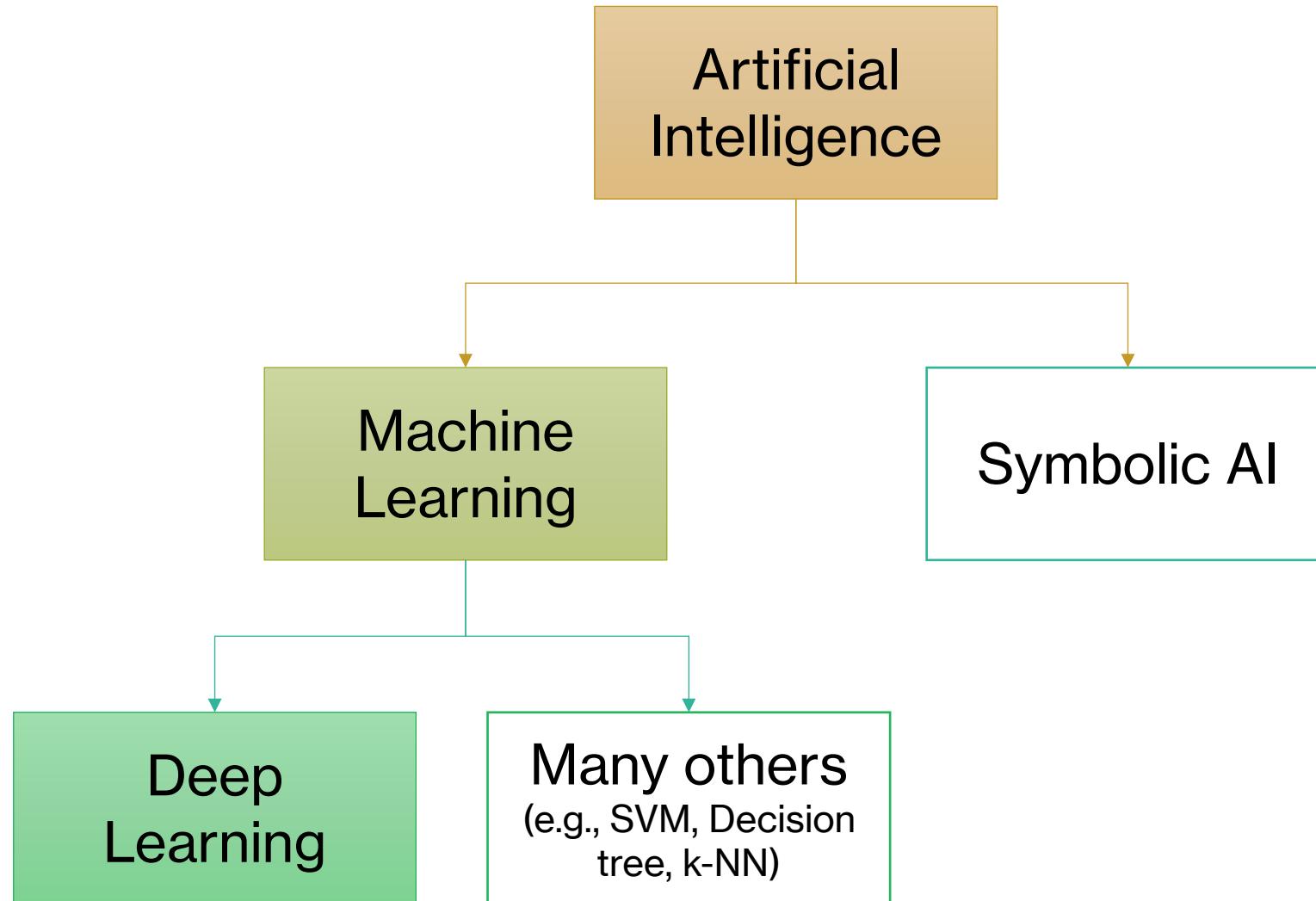


Neural Machine Translation



Statistical Machine Translation

- Translation Model
 $P(\text{"I"}|\text{"我"}) \times P(\text{"go"}|\text{"去"}) \times \dots$
- Language Model:
 $P(\text{"我乘火車去學校"})$



AlphaGo

Speech
recognition

Sentiment
analysis

Summarization

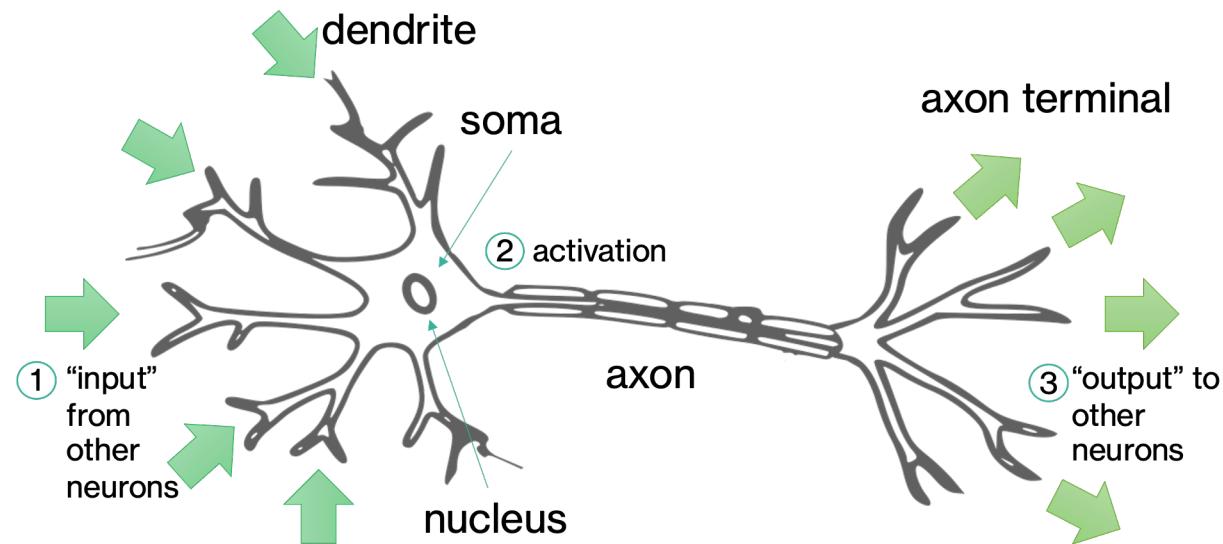
Chatbot

Stock price
prediction

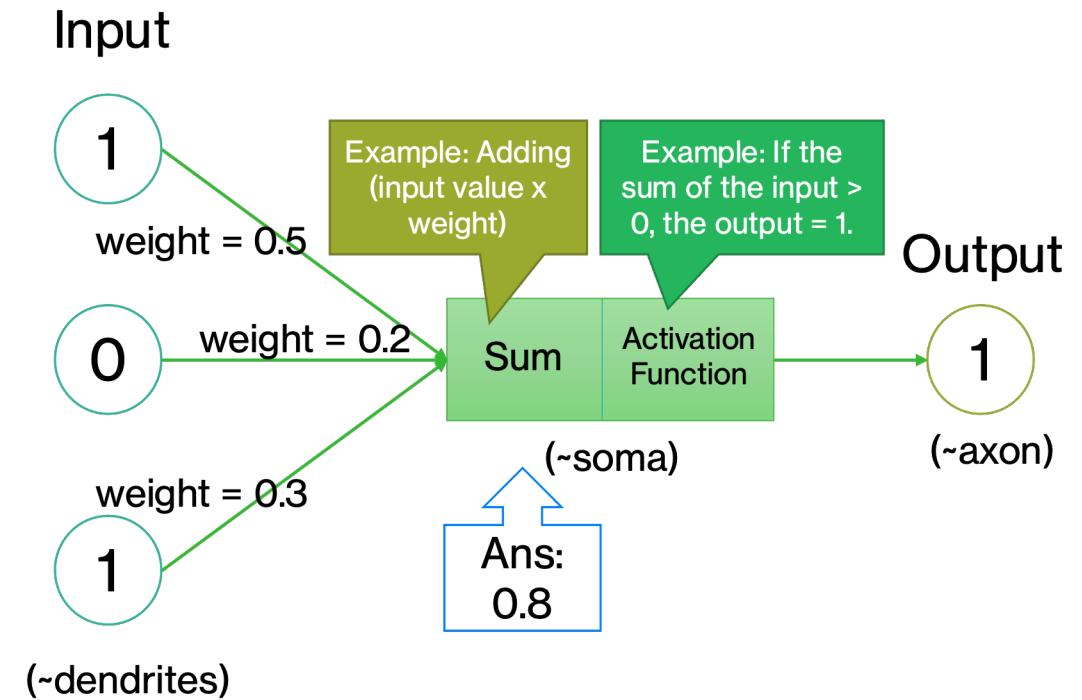
Image
classification

Object detection

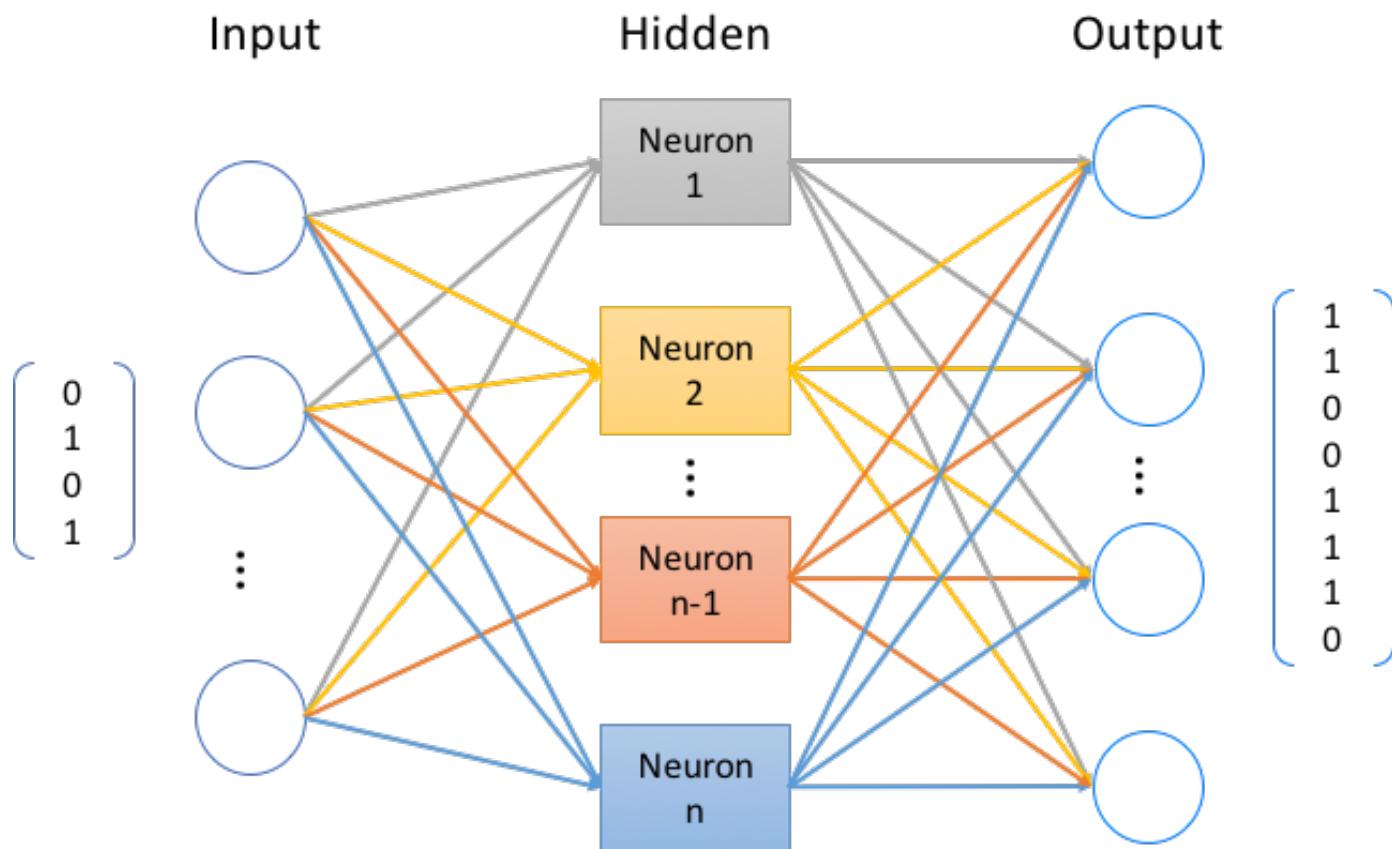
Self-driving cars
and many more



Biological Neuron



Artificial Neuron

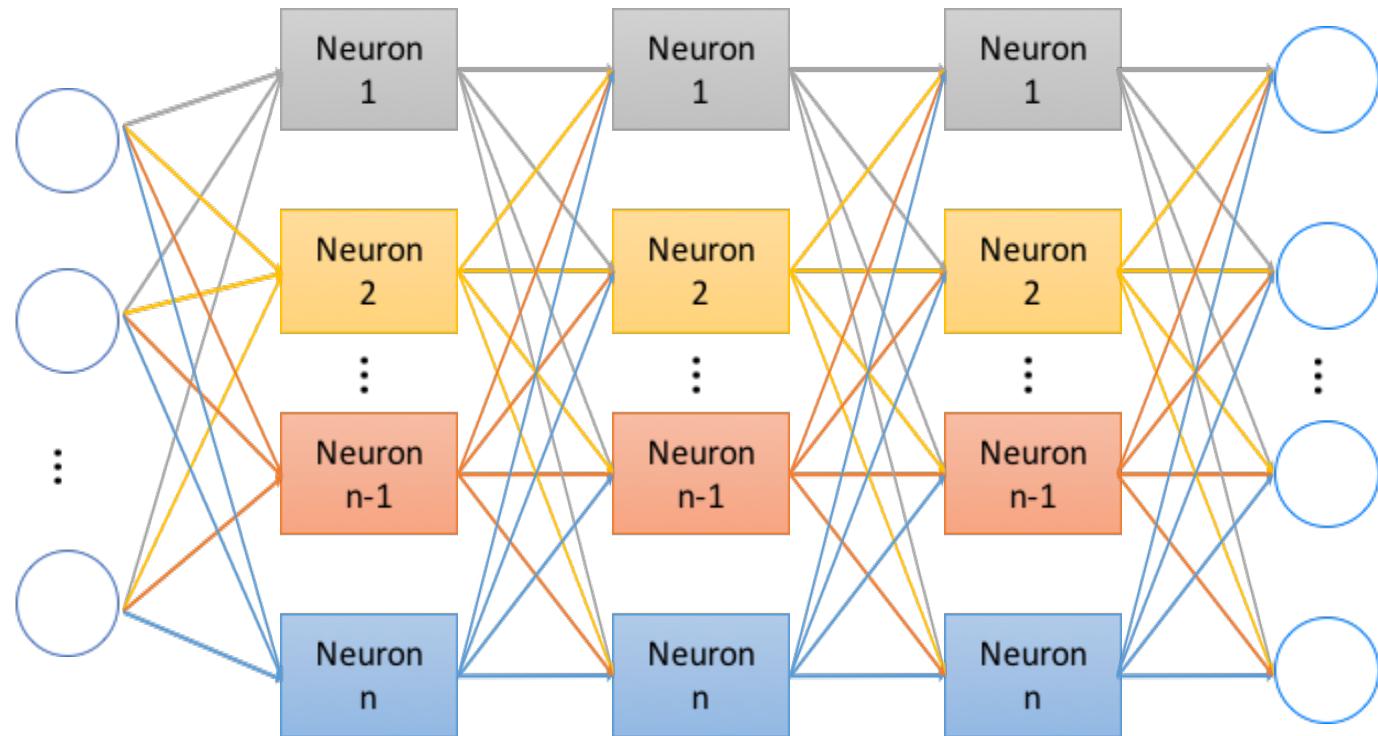


Artificial Neural Network

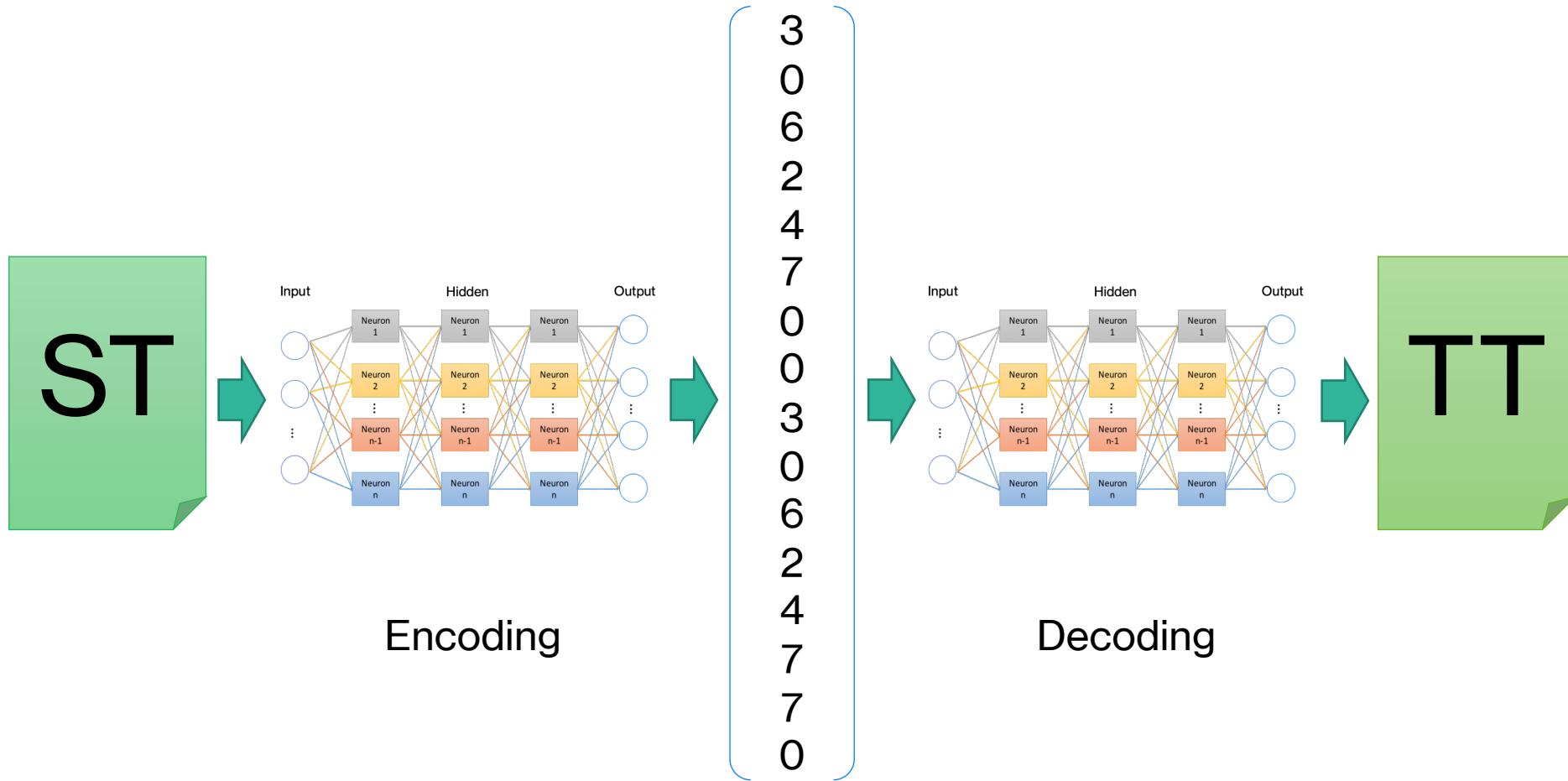
Input

Hidden

Output



Deep Neural Network



Neural Machine Translation



Two Use Cases



Informal Translation



Professional Translation

Machine Translation in the Context of Professional Translation



Easy to operate

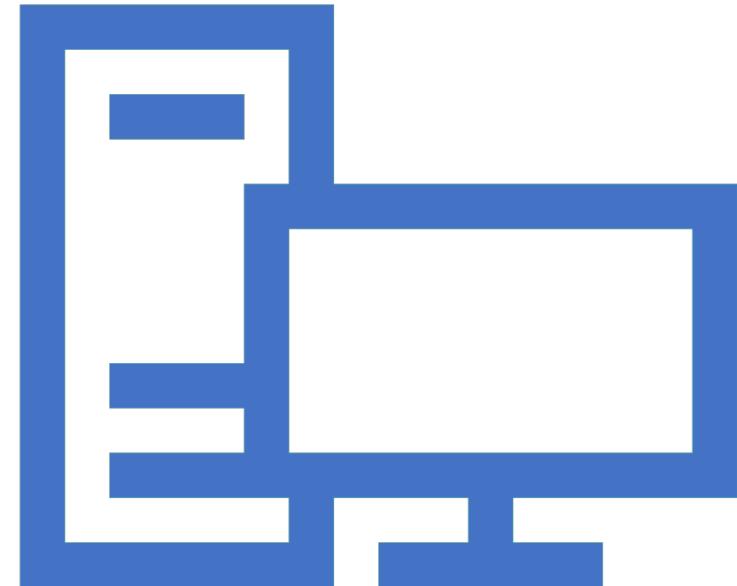


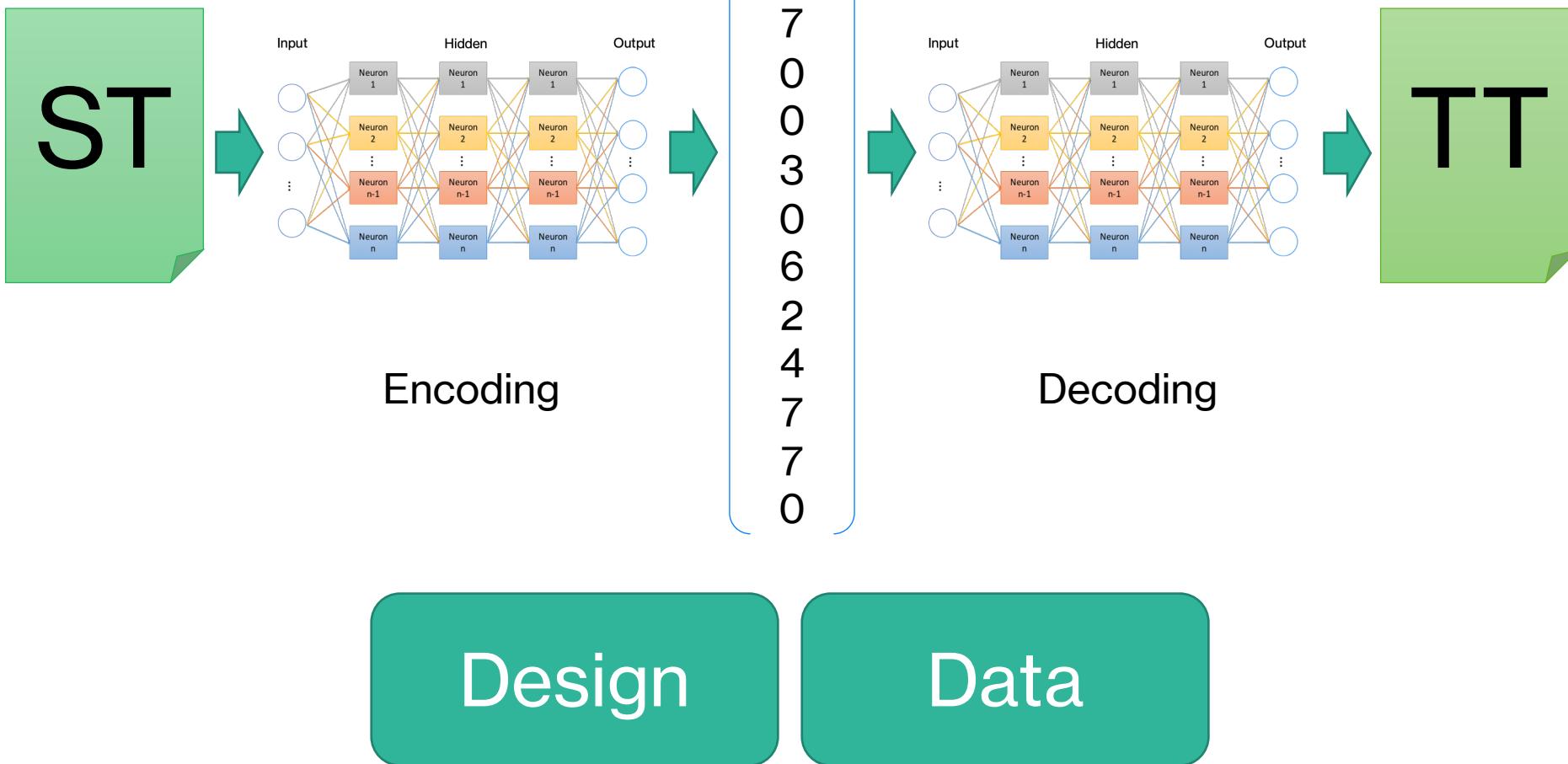
Hard to master

Three Useful Tips

Tip 1

- Use multiple machine translation engines





Tool 12

- Google Translate: <https://translate.google.com/>



Tool 13

- Bing Translator: <https://www.bing.com/translator>



Tool 14

- Yandex Translate: <https://translate.yandex.com/>



Tip 2

- Use specialised translation engines



Tool 15

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



Tool 16

- Sogou: <https://fanyi.sogou.com/text>



Our Engine

Source Text

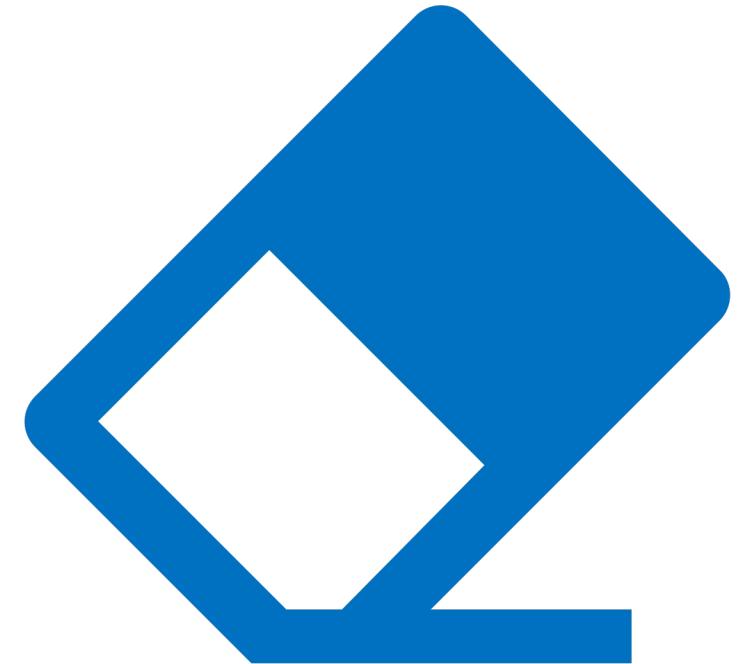
- For more health information, the public may call the DH ' s Health Education Hotline (2833 0111) or visit the CHP ' s website and Facebook Fanpage.
- Members of the public are advised to take heed of the following advice to reduce the risk of getting influenza and respiratory tract infections:
- Seek medical advice when feeling unwell, and stay at home; and
- Starting from October 2018, the HA has proactively arranged for healthcare staff to receive seasonal influenza vaccination to protect themselves and lower the risk of cross-infection. So far, around 30 000 staff members have received the vaccination, which is about a 40 per cent increase as compared to the figure for the same period last year.
- Wash and cook all food thoroughly;

Our Platform

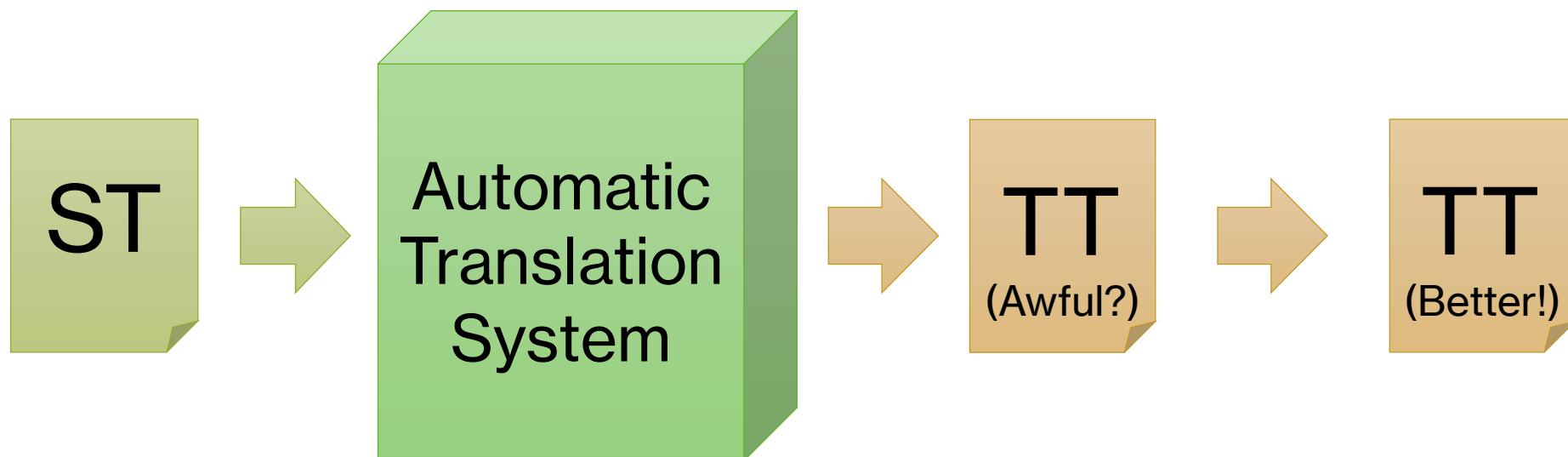
- 有關更多健康資訊，可致電衛生署健康教育熱線（ 2833 0111 ），或參閱衛生防護中心網頁和Facebook專頁。
- 為減少患上流感或其他呼吸道感染，市民應採取以下措施：
- 如有不適，應立即就診及留在家中休息；及
- 自2018年10月以來，醫管局已積極安排醫護人員接受季節性流感疫苗接種，以保護自己及降低感染風險。至今，約有30 000名工作人員接種了疫苗接種，比去年同期增加了40%。
- 徹底清潔並煮熟所有食物；

Tip 3

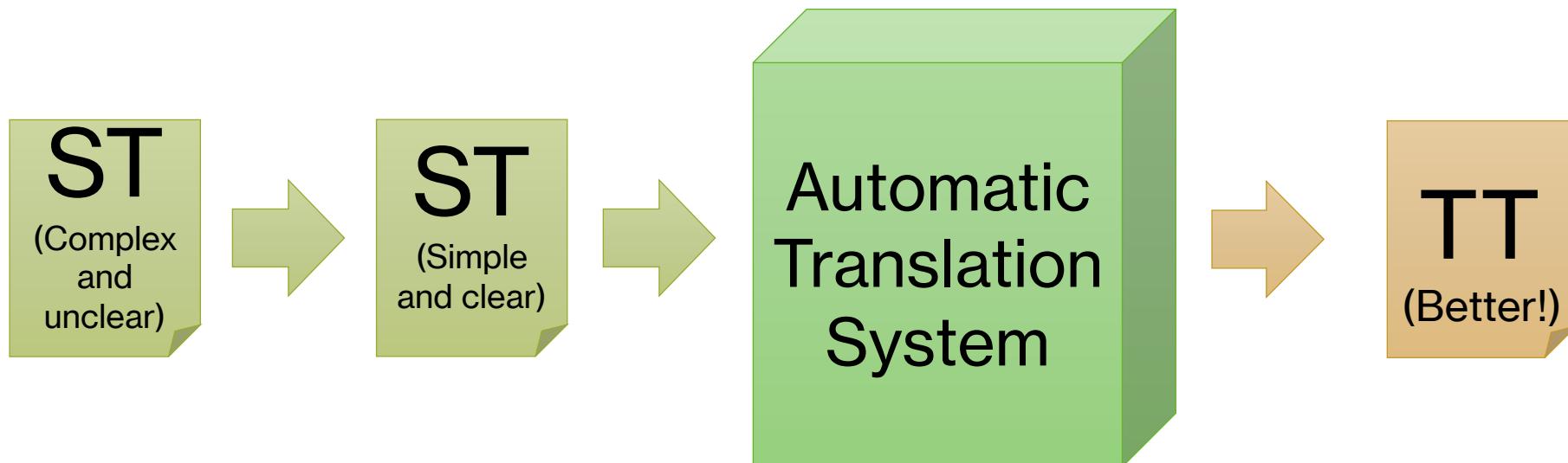
- Edit your source text **AND** automatic translation results



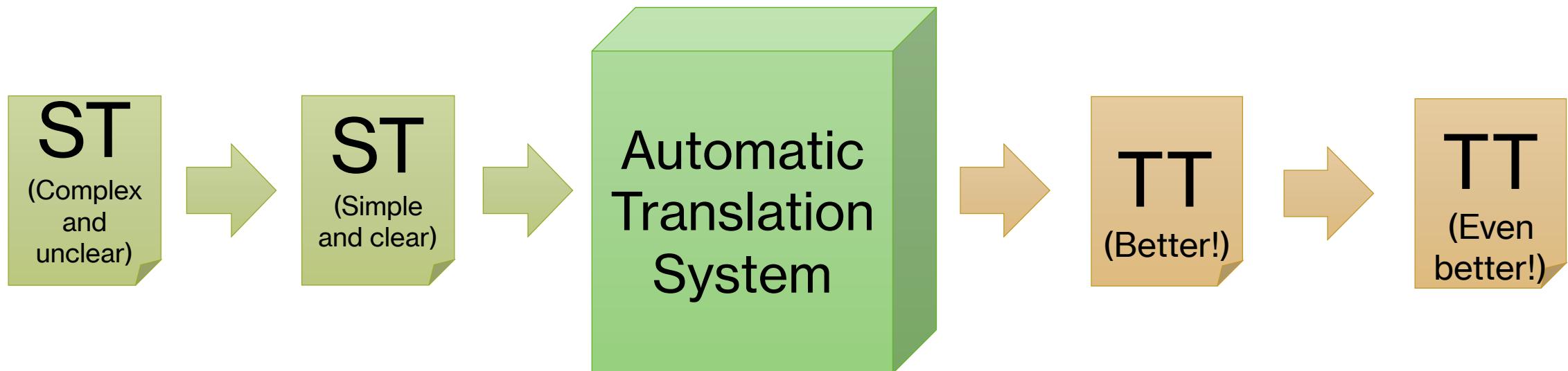
Post-editing



Pre-editing



Pre-editing and Post-editing



15 Types of Tools

Specialized
dictionaries

Machine
translation

Translation
memories

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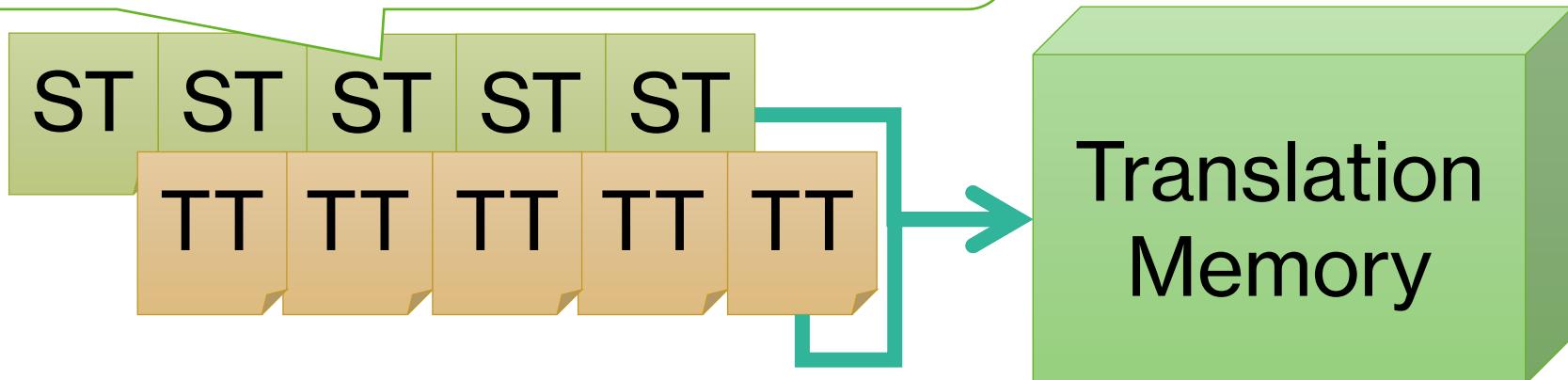
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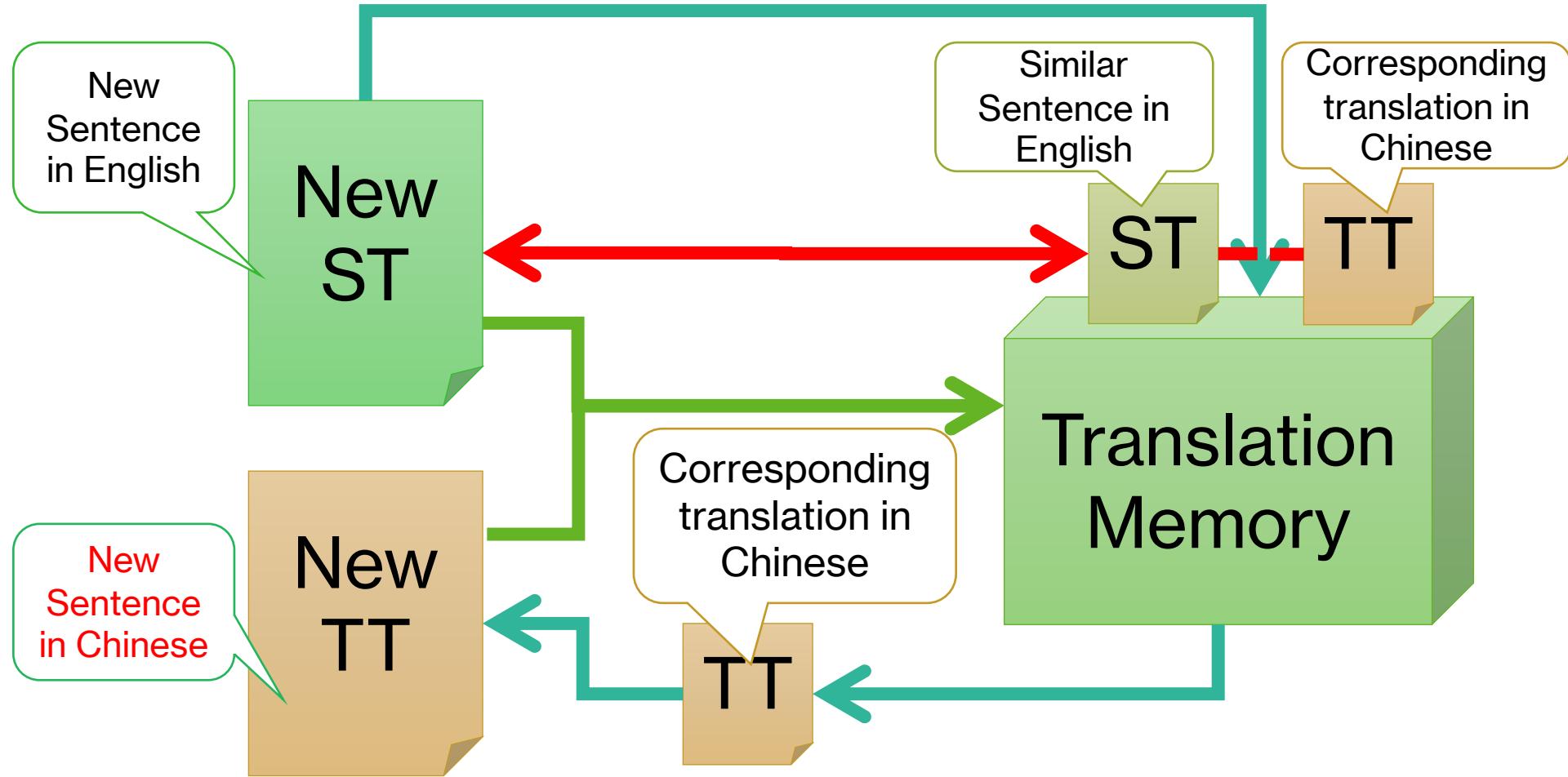
Translation Memory

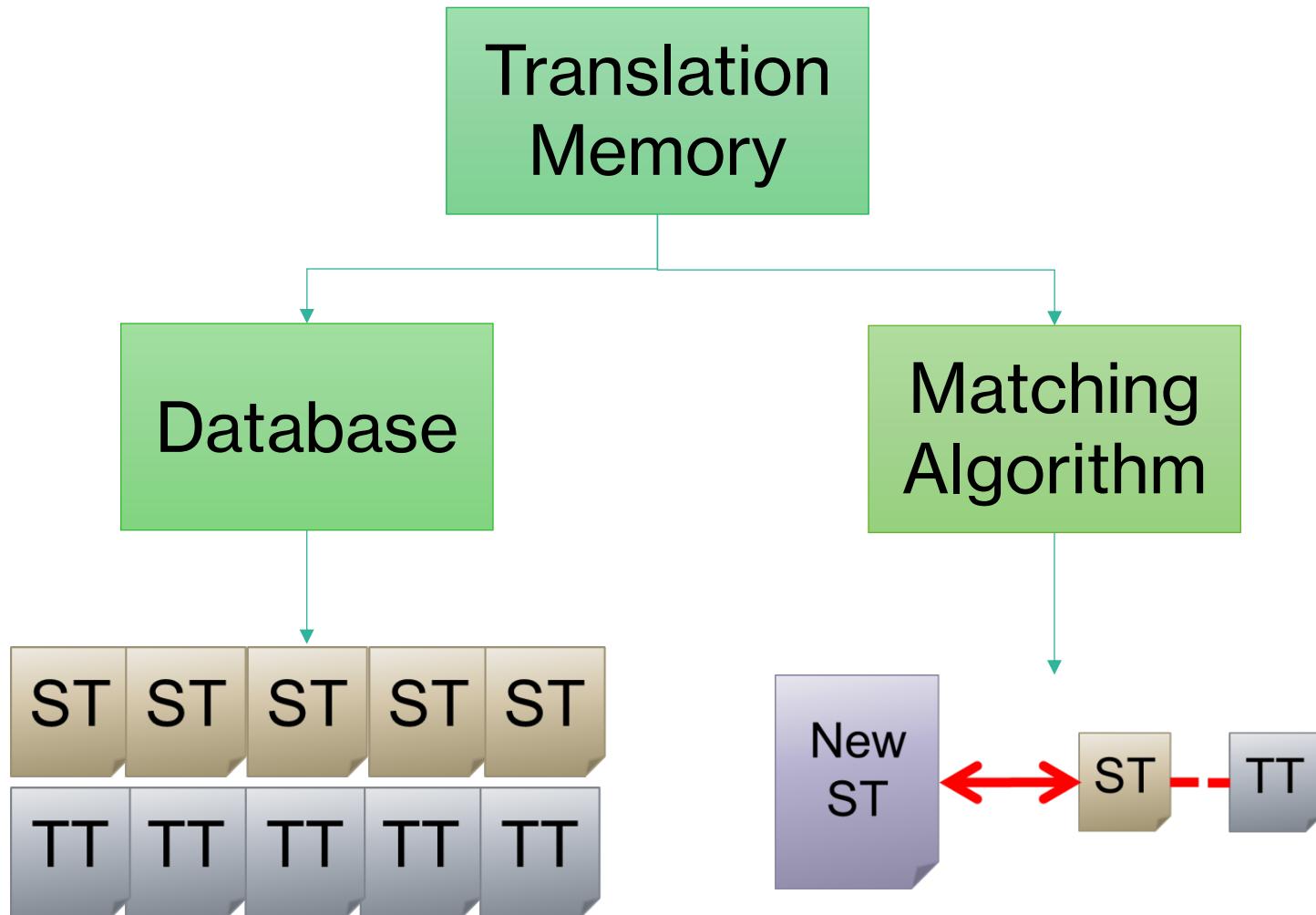
ST = Sentence in English

TT = Sentence in Chinese



Translation Memory







Strengths

Speed

Cost

Consistent style

Key Issues



Quality



Security



Synchronization

Examples?

15 Types of Tools

Specialized
dictionaries

Machine
translation

Translation
memories

Terminology
databases

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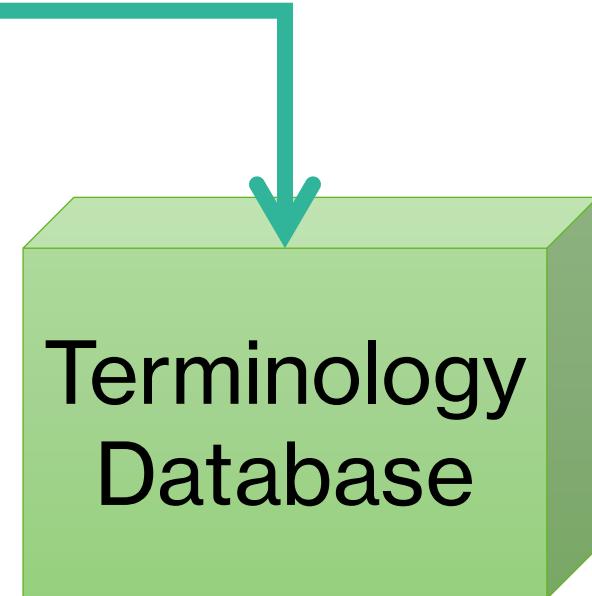
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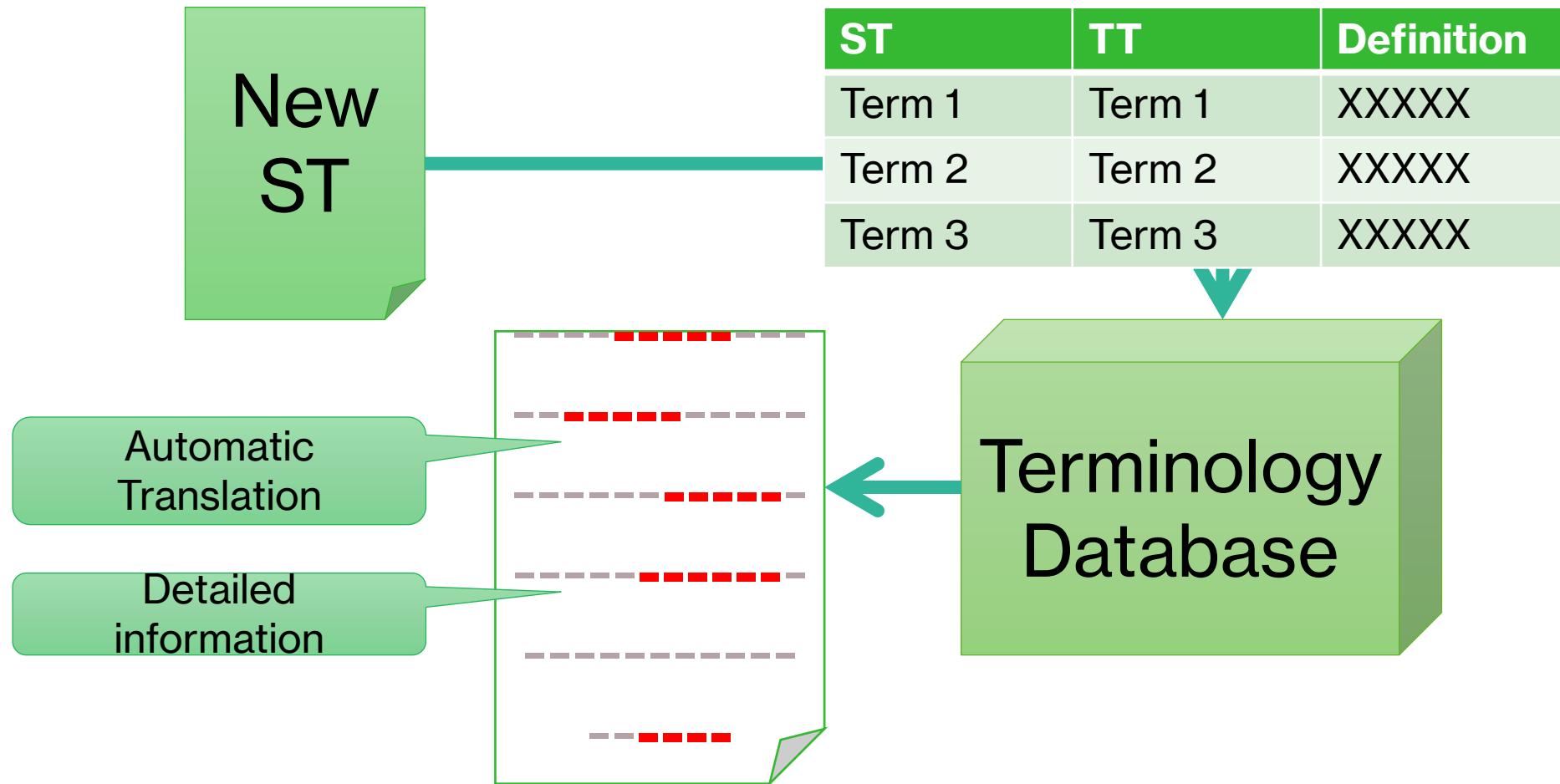
?

Terminology Databases

ST	TT	Definition
Term 1	Term 1	XXXXXX
Term 2	Term 2	XXXXXX
Term 3	Term 3	XXXXXX



Terminology Databases



Terminology Database



Accuracy



Consistency



Team Translation

Tool 17

- MemoQ:
<https://www.memoq.com/solutions/translators>



Tool 18

- Memsource: <https://www.memsource.com/>



Tool 19

- SmartCAT: <https://www.smartcat.com/>



Tool 20

- Termsoup: <https://termsoup.com/>



Tool 21

- Trados Studio:
<https://www.rws.com/translation/software/trados-studio/>



Other interesting topics

Specialized
dictionaries

Machine
translation

Translation
memories

Terminology
databases

?

1. More
alternatives?
Anatomy,
physiology,
pharmacology...

2. How can
we pre-edit
our ST?

3. How can
we translate a
file with TM?

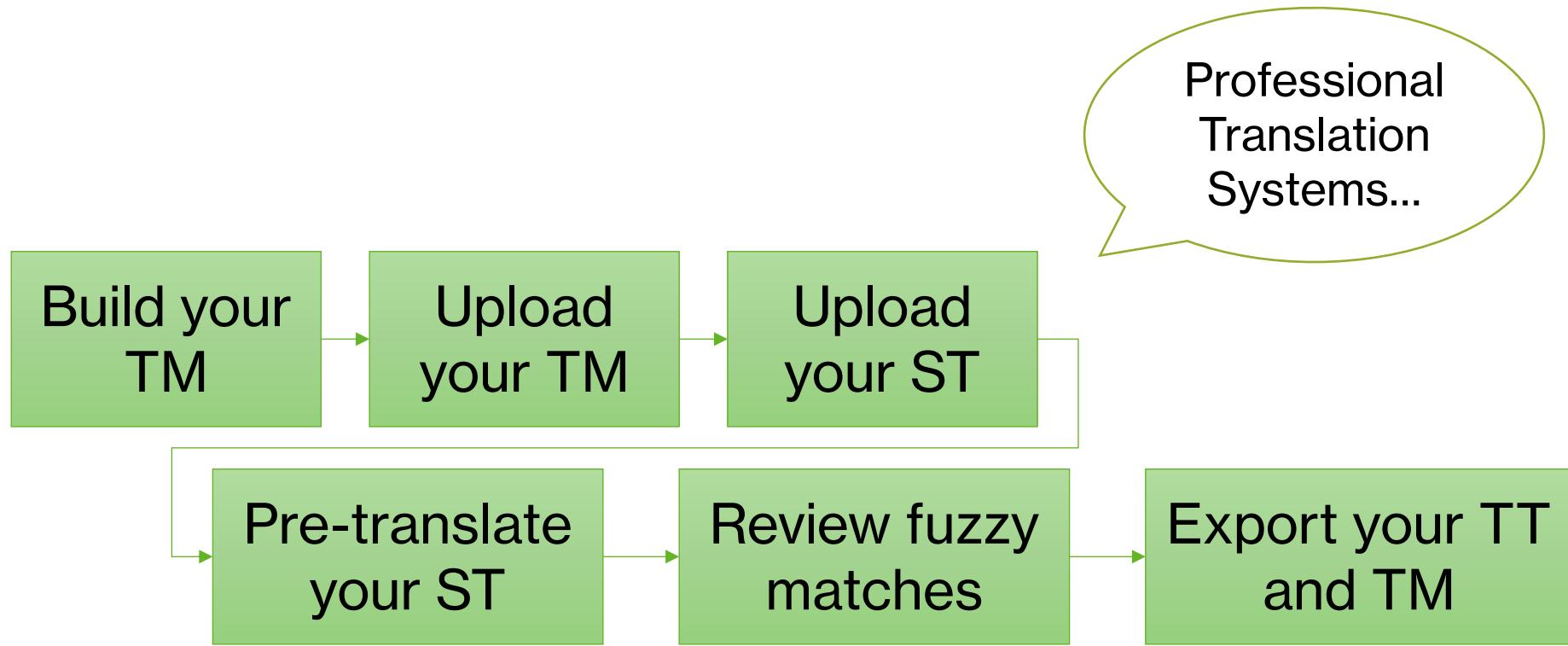
4. How can
we create a
term base?

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Other interesting topics

Specialized
dictionaries

Machine
translation

Translating
machine
learning

5. The remaining
11 types of tools?

Quality
assurance tools

File processing
tools

Text analysis
tools

Corpora and
concordancers

Search engines

Medical
databases

Summarization
tools

Rewriting tools

Team translation
tools

Content creation
tools

Electronic
resources for
continuous
development

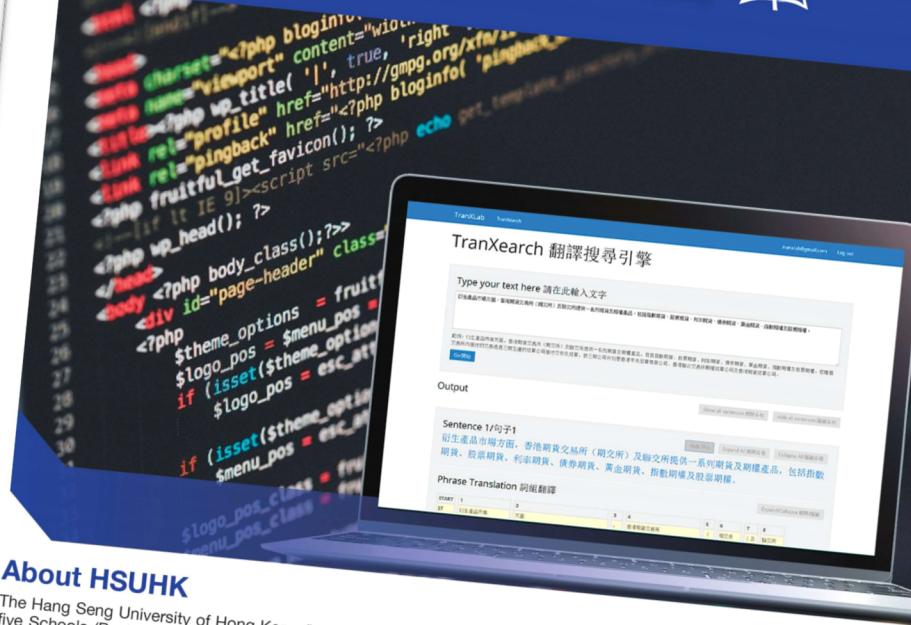
Other interesting topics

6. Tools for pharmaceutical translation?

7. Tools for medical interpreting?

8. Tools for TCM translation?

Master of Arts in TRANSLATION (COMPUTER-AIDED TRANSLATION) (MA-TCAT)



About HSUHK

The Hang Seng University of Hong Kong (HSUHK) is a non-profit private liberal-arts-oriented university in Hong Kong with five Schools (Business, Communication, Decision Sciences, Humanities and Social Science, and Translation) and around 5,000 full-time students.

Adopting the "Liberal + Professional" education model which incorporates the iGPS "desired graduate attributes" framework, HSUHK is a residential institution which puts quality teaching and students' all-round development as its highest priorities.

Aspiring to be a leading private liberal-arts-oriented university in the region, HSUHK features top-quality faculty members, award-winning green campus facilities, innovative degree programmes, RGC-funded impactful research, and excellent student development/support services, with the aim of nurturing young talents with critical thinking, innovative minds, human caring attitude, moral values and social responsibilities.



翻譯學院
SCHOOL OF TRANSLATION
香港恒生大學
THE HANG SENG UNIVERSITY
OF HONG KONG



Some modules have been included in the list of
reimbursable courses for Continuing Education
Fund purposes.

Program Overview

- Our program aims to offer **systematic training** to help you acquire **professional translation skills** and get familiar with state-of-the-art **language technology**.

Our Programme



Translation Skills



Translation Tools

Our Program is for you if you are ...



A language professional



Not a translator but need to work
with bilingual documents



An IT Professional who wants to
know more about language



A lover of language, culture or
technology

Our program covers the following:



Language and Translation Skills



Latest Technology for Professional Translation



Specialized Translation (e.g., Commercial and Legal Translation)



Language Services (e.g., Web Localization and Bilingual Digital Marketing)

Study Modes

Full-time mode (1 year)

Part-time mode (2 years)

Visiting students

Curriculum

4 Core Modules

4 Elective Modules

We offer the following Core modules:



Translation Technology:
Knowledge and Skills



Professional Language
Services: Skills and
Strategies



Translation in Business
and Law



Professional Workshop
for Online Collaborative
Translation

Select electives from the following 2 areas:

Area 1

Professional Language Services (Computer-aided)



Scientific and Technical Translation



Translation for International Trade and Transportation



Electronic Tools for Translators of Philosophical, Historical and Literary Texts



Medical and Pharmaceutical Translation



Interpreting for Business and Law

Area 2:

Translation Technology



Localization and Bilingual Web Development



Technology for Bilingual Digital Marketing



Natural Language Processing for Translators



Technology for Translation Research



Advanced Topics in Translation Technology

Admission Requirements

- A Bachelor's degree from a recognized university or equivalent; and
- Fulfilment of one of the following English language proficiency requirements if the applicant's bachelor's degree was not obtained from a university where English is the medium of instruction: TOEFL \geq 550 (paper-based), \geq 213 (computer-based), \geq 79 (internet-based); IELTS \geq 6.5; CET 6 \geq 430; TEM-4 \geq 70.

Applicants may be required to take an entry test or interview. Assessment criteria will include translation aptitude, communication skills (English and Chinese), basic computer knowledge, and personal traits.

Graduation Requirements

In order to be eligible for the award of the Master of Arts in Translation (Computer-Aided Translation), students are required to

- complete a minimum of 24 credits as laid down in the Programme curriculum;
- complete the four core modules;
- complete at least one elective module in Area 1 (Professional Language Services (Computer-aided));
- complete at least one elective module in Area 2 (Translation Technology); and
- obtain a minimum cumulative GPA of 2.0.

Credit Transfer Scheme

- Credit transfer may be granted for modules at the same level completed successfully at the University or in another accredited tertiary institution.
- Taught postgraduate students are required to complete at least 50% of the curriculum requirement of the admitted program at HSUHK.

Read more



Next Talk...



- STFL Online Workshop Series on Game Localization and Digital Entertainment 2021
- **Game Localization: New Translation Studies Challenges and New Job Profiles**
- Moderator: Dr. Sai-yau SIU
- June 7, 2021, Monday (16:00-17:00, HKT)
- 1 ECA hour / 1 iGPS unit



Thank you so much!

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