

Conscious AI :

Buddhist-Inspired Cognitive Framework and Semantically Aware Reasoning

Virach Sornlertlamvanich

Faculty of Data Science, Musashino University

virach@gmail.com, virach@musashino-u.ac.jp

<https://virach.com>

27-29 November 2025

世界の幸せをカタチにする。

Creating Peace & Happiness for the World



Musashino University

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Experience in Making Payments at a POS Terminal → Choosing a payment method



Sati (सति)

“The ability to be aware of what is happening in the present moment.”

In a Metacognitive perspective:

“Stage of knowing what you know.”

Experience in Making Payments at a POS Terminal → Figuring out how to pay

Sampajanya
(ສັມປຈຳຍະ)



“Clear comprehension of what you are doing and why.”
or “Wisely knowing how to act in context.”

In a Metacognitive perspective:

“Stage of knowing how to reach what you know.”

Evolution of Artificial Intelligence:

The Explanation from Three Perspectives

- **Data-driven AI**

Learning from past huge data; predicting the present based on past events
--Past Correlation--

- **From Big Data to Streaming Data**

An era is coming where only surface-level data can be observed!!
--Present Adaptation--

- **Toward Conscious AI**

Awareness of its own state, goals, and context.
--Intentional Model--

Data-driven AI

--Past correlation--

- **Markov model**

- The principles of machine learning and deep learning, such as LSTM, RNN, CNN, and Transformer, learn from past data and predict the present or future based on past events.

- **Ariyasat 4 (อริยสัจสี่) / The Four Noble Truths**

- Data Collection** • **Dukkha** (ทุกข์) :
The truth of suffering. Life involves suffering, dissatisfaction, and impermanence.
- Feature Selection** • **Samudaya** (สมุทัย) :
The origin of suffering. Suffering arises from attachment, desire, and ignorance.
- Machine Learning** • **Nirodha** (นิโรธ) :
The cessation of suffering. It is possible to end suffering by eliminating its causes.
- LLM + Prompt** • **Magga** (มรรค) :
The path to the cessation of suffering.

From Big data to Streaming data

--Present Adaption--

Few-shot Learning
One-shot learning
Zero-shot Learning

- Compared to “**knowledge**,” the world of “**ignorance**” is far greater.
- An era is coming when we will only be able to observe “**superficial data**”!!
⇒ Predict and model the data of ignorance. A complete model can never be created.



無知
Ignorance
อวิชชา *Avidya*



$$Wisdom \approx \frac{Knowledge}{Ignorance}$$

Wisdom is like the ratio between knowledge and ignorance

We are so exciting with today LLMs performance!!

This is because of its

- Versatility and Flexibility
- Human-Like Interaction
- Knowledge(-Like) Integration
 - Natural language guided prompt, not knowledge representation or reasoning background
- Ease of Use

Does an LLM truly possess knowledge, or does it just appear to behave intelligently?

- LLMs are not developed based on the process of language understanding.
- LLMs do not reason about occurrences by connecting to any knowledge representation of either language or the real world.
- LLMs are developed through training on massive amounts of text data using an artificial neural network.
- LLMs have the capability to compute quickly enough to provide a response within an acceptable timeframe with a proper language sequence, but there is no guarantee of the accuracy of the answers.

Toward Conscious AI

--Intentional Model--

- Daniel Kahneman, in his book *Thinking, Fast and Slow*, explains that human thinking operates mainly through two systems.
 - System 1 is the mechanism for "thinking fast," instantly handling many of the judgments we make in daily life.
 - System 2 is the mechanism for "thinking slowly and deeply," used for making reliable decisions and solving complex problems.

Fatual Tests on ChatGPT 3.5 API

“Who is the founder of Musashino University?”

LLM Hallucinations

After factual information is supplied in the “content” parameter for the “assistant,” the model provides accurate and appropriate responses.

```
[60]: completion = openai.ChatCompletion.create(
    model="gpt-3.5-turbo",
    messages=[
        {"role": "system", "content": "Answer the question as truthfully as possible, \
and if you're unsure of the answer, say 'Sorry, I don't know.'"},
        {"role": "user", "content": "Who is the founder of Musashino University?"}
    ],
    temperature = 0
)
```

```
[61]: print(completion.choices[0].message.content)
The founder of Musashino University is Yasujiro Shimazu.
```



```
[64]: completion = openai.ChatCompletion.create(
    model="gpt-3.5-turbo",
    messages=[
        {"role": "system", "content": "Answer the question as truthfully as possible, \
and if you're unsure of the answer, say 'Sorry, I don't know.'"},
        {"role": "assistant", "content": "In 1924, Dr. Junjiro Takakusu, a Buddhist scholar, \
founded Musashino Women's Academy within Tsukiji Honganji Temple. After that, \
he took over Chiyoda Women's College, which was run by Chiyoda Women's College, and \
opened Musashino Women's Junior College in 1950. In 1965, the predecessor Musashino \
Women's University was founded. In 2003, the school name was changed to Musashino University."},
        {"role": "user", "content": "Who is the founder of Musashino University?"}
    ],
    temperature = 0
)
```

```
[67]: print(completion.choices[0].message.content)
The founder of Musashino University is Dr. Junjiro Takakusu.
```



Logical Tests on ChatGPT 3.5 API

```
[69]: completion = openai.ChatCompletion.create(
    model="gpt-3.5-turbo",
    messages=[
        {"role": "system", "content": "The following is a quiz testing reasoning skills, please answer."},
        {"role": "user", "content": "Let's represent a digit of 1 with 'banana' and \
a digit of 0 with 'orange.' If the sequence 'banana, orange, orange' is equivalent \
to 100, then what is the number represented by 'orange, banana, banana, orange, banana'?"},
    ],
    temperature = 0
)
```

```
[70]: print(completion.choices[0].message.content)
```

The number represented by 'orange, banana, banana, orange, banana' can be determined by substituting the digits with their corresponding values.

Given that 'banana' represents 1 and 'orange' represents 0, we can rewrite the sequence as follows: 01011.

Converting this binary number to decimal, we get 11.

Therefore, the number represented by 'orange, banana, banana, orange, banana' is 11.

01101

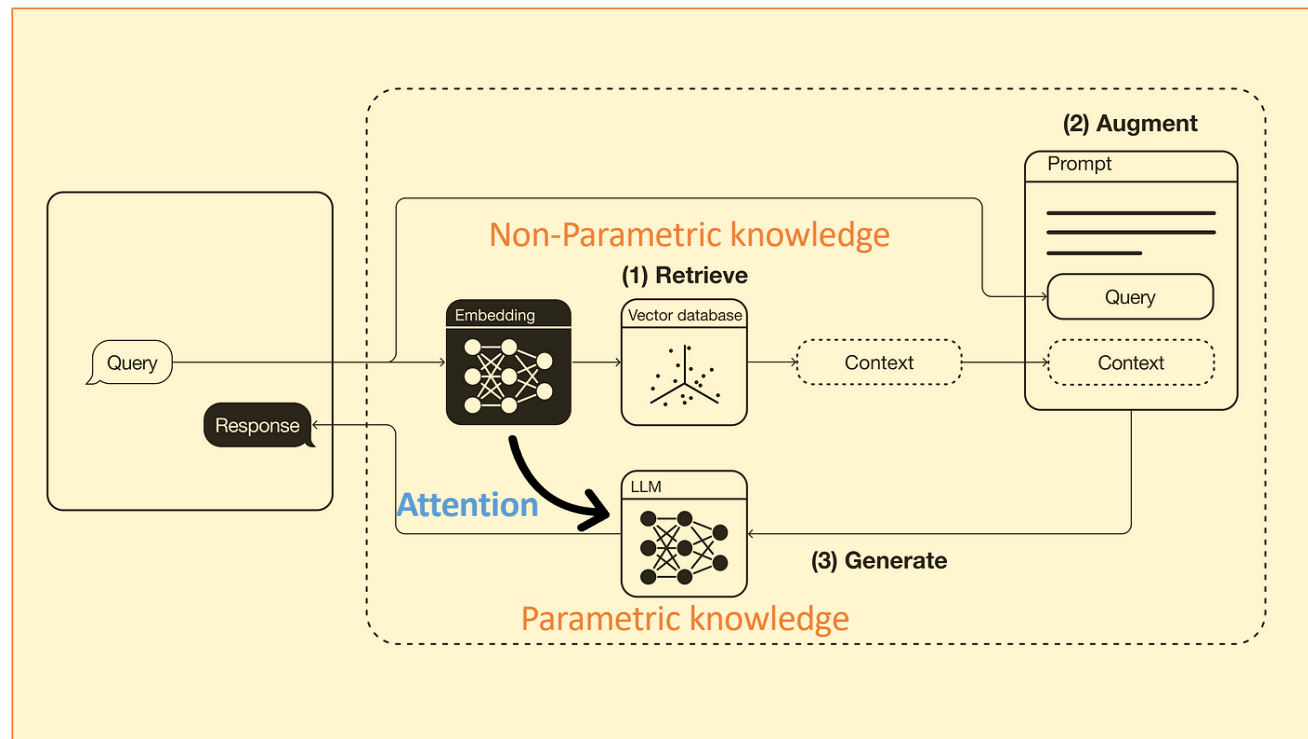
Retrieval-Augmented Generation (RAG)

“Retrieval-Augmented Generation for Knowledge-Intensive NLP Tasks”, Lewis et al., 2020

Retrieval-Augmented Generation (RAG) is the concept to provide LLMs with additional information from an external knowledge source. This allows them to generate more accurate and contextual answers while reducing **hallucinations**.

It's simply a knowledge (data?) adding process

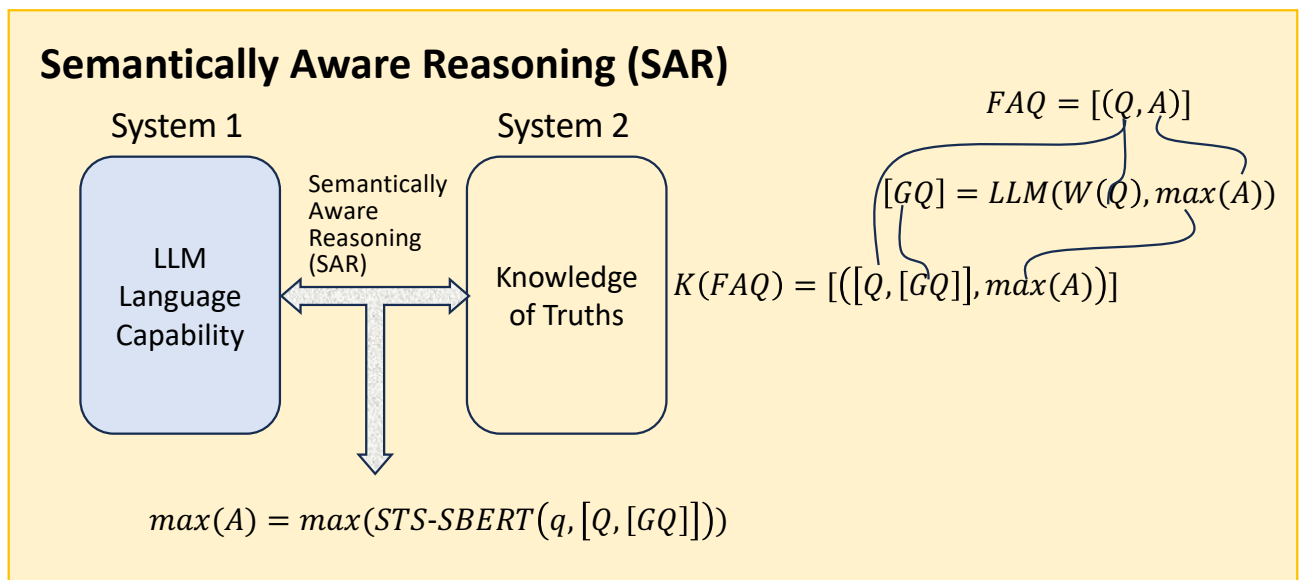
The RAG method is still lacking in reasoning / understanding capabilities



Toward Conscious AI

- Virach Sornlertlamvanich. **Enhancing Large Language Models: Alleviating Knowledge Deficiency with External Knowledge and Semantically Aware Reasoning (SAR)**. Knowledge and Information Systems, *Springer Nature*, pp. 1–19, 2025, doi: 10.1007/s10115-025-02485-4.

In a dual-process architecture, the large language model (LLM) serves as **System 1** to handle intuitive processing, while **System 2** utilizes structured knowledge to support logical decision-making.



SAR model is proposed to overcome the drawbacks of LLM hallucination and the RAG knowledge adding model

Total State of Cognition in Human Thought Process:

The 5 progressive levels in the development of understanding or insight, the transformation of **Cogniton**.

The Five States of Mind Enlightenment

เบญจวิชา (Benjavitcha)

- | | | |
|---|-----------|---|
| 1. Data/Information | データ, 情報 | ข้อมูล |
| <u>Sensing</u> what you observe | | |
| 2. Knowledge | 知識 | ความรู้ |
| <u>Understanding</u> what you observe | | |
| 3. Consciousness | 気づき, メタ知識 | สติ (Sati , ความระลึกได้) |
| <u>Knowing</u> what you know / Meta-Knowledge, Mindfulness | | |
| 4. Awareness | 理解、明覚 | สัมปชัญญะ (Sampajañña , ความรู้ลึกทั่ว) |
| <u>Ability to reach</u> what you know / Clear comprehension | | |
| 5. Enlightenment | 悟り | ปัญญา, ตรัสรู้ |
| <u>Knowledge creation</u> | | |

Conclusion and Future Work

- **LLM** exhibits remarkable language fluency and serve as highly efficient information compressors, lacking the metacognitive functions required for reliable reasoning
- **SAR** introduces a reasoning layer that enhances the reliability of generative models and represents a preliminary step toward reflective cognition
- **The Five States of Mind Enlightenment** offer a coherent framework for interpreting these gaps
- **Buddhist AI** inspires a breakthrough to approach human intelligence
- Does AI need to be **conscious**?

響き合って、
未来へ。



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武蔵野大学

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A Century of Global Learning

Creating Peace & Happiness for the World



The Gate



Lecture room



PBL Classroom



PBL lesson



Research Space



Research Space



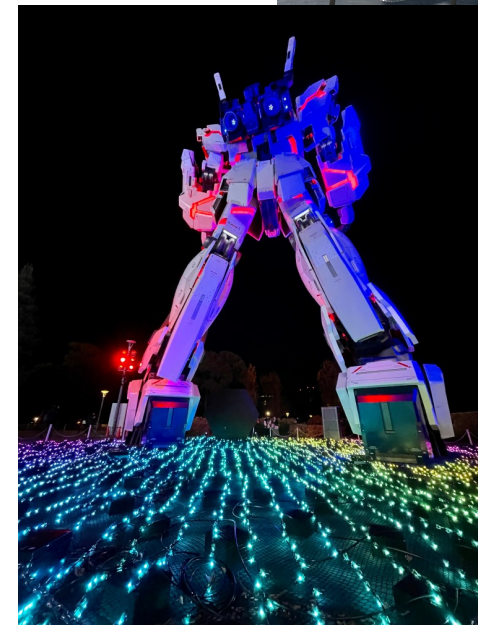
Research Space



The Garden



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Odaiba



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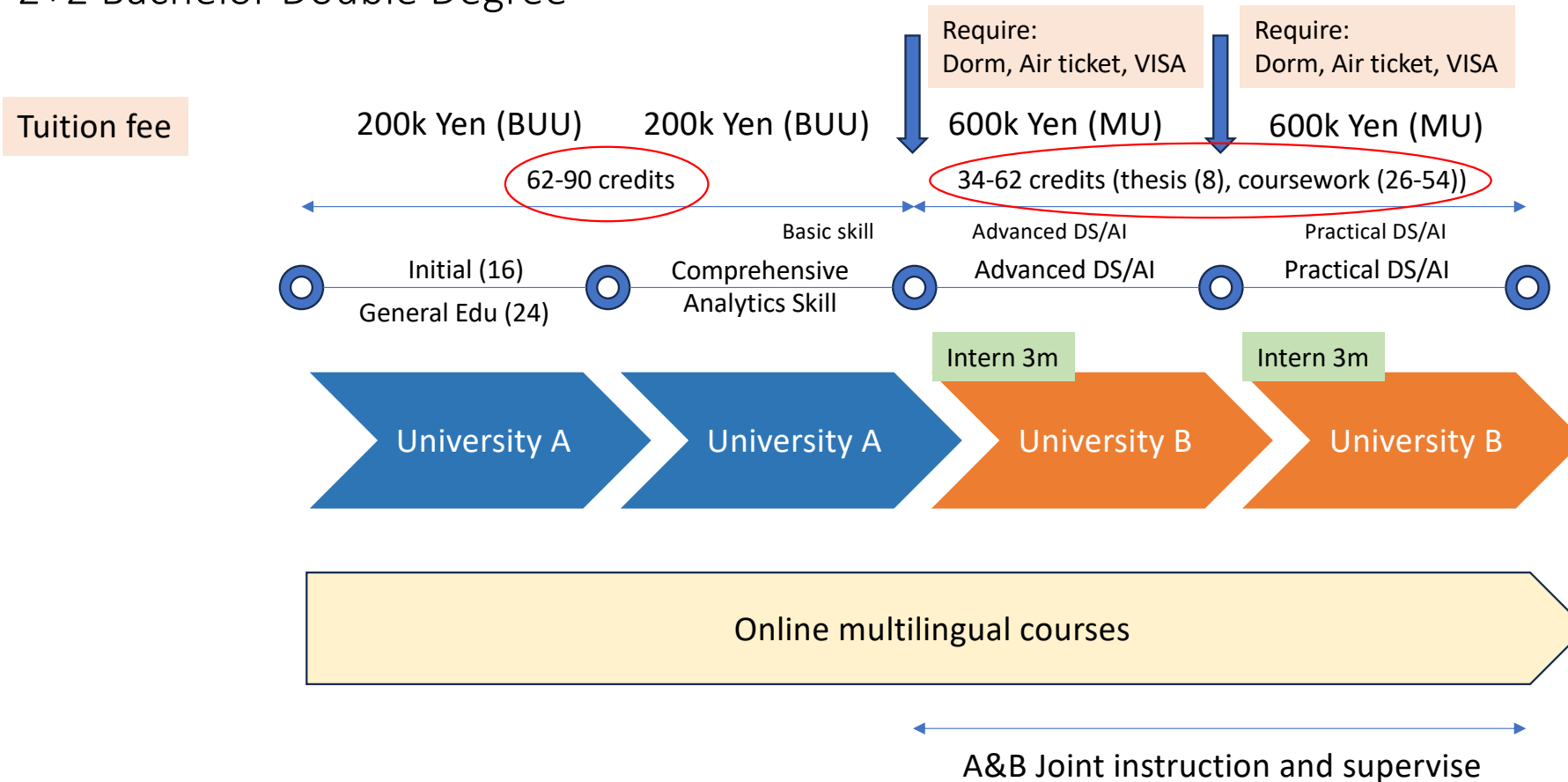
MIDS

Musashino International Data Science Double Degree Program

Model 1

2+2 Bachelor Double Degree

3rd-year transfer
3 年次編入

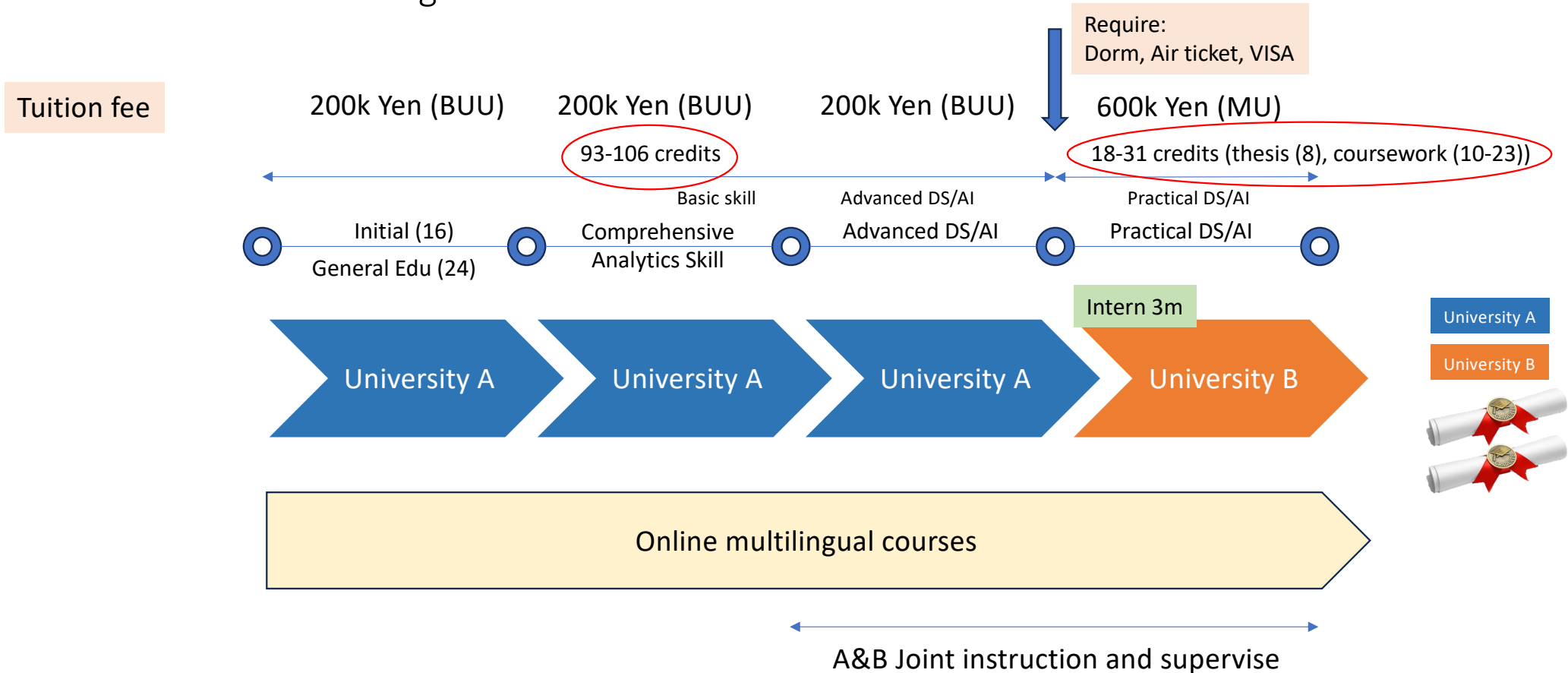


MU: Credit # for graduation (B Degree) = 124
BUU: Credit # for graduation (B Degree) = 121

Model 2

3+1 Bachelor Double Degree

4th-year transfer
4 年次編入

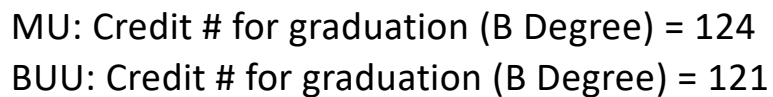


MU: Credit # for graduation (B Degree) = 124

BUU: Credit # for graduation (B Degree) = 121

3+1+1 Combined Bachelor-Master Degree

4th-year transfer
4 年次編入
修士 5 年一貫



MU: Credit # for graduation (M Degree) = 30

Grade and Entrance Schedule

2nd Semester

1st Semester

