ISOM5240
Deep Learning Business Applications with Python

Prof. James Kwok

Associate Professor of Business Education

Certified Information Systems Auditor (CISA)

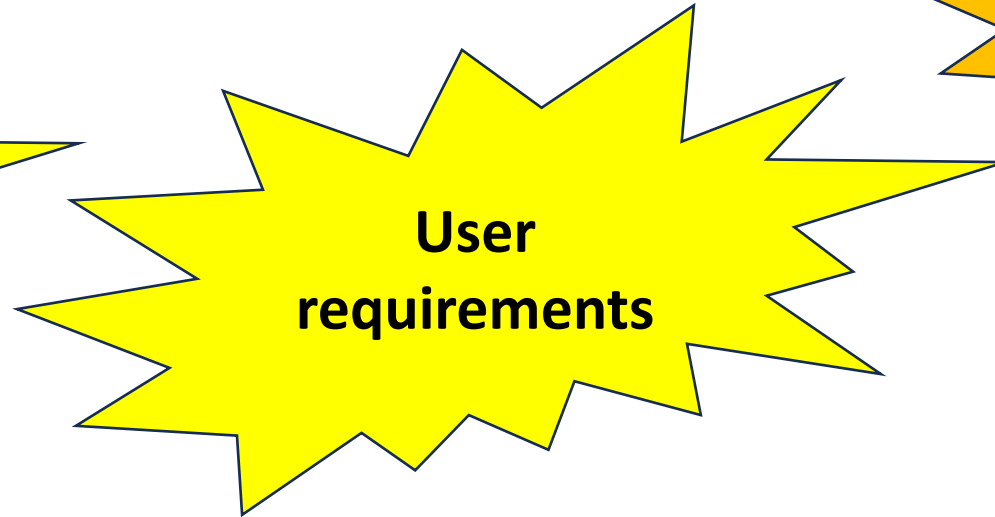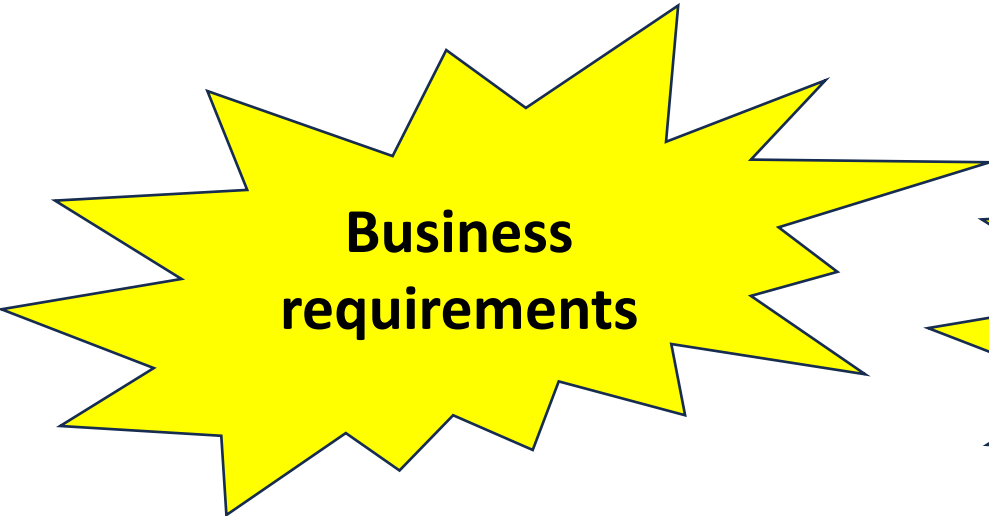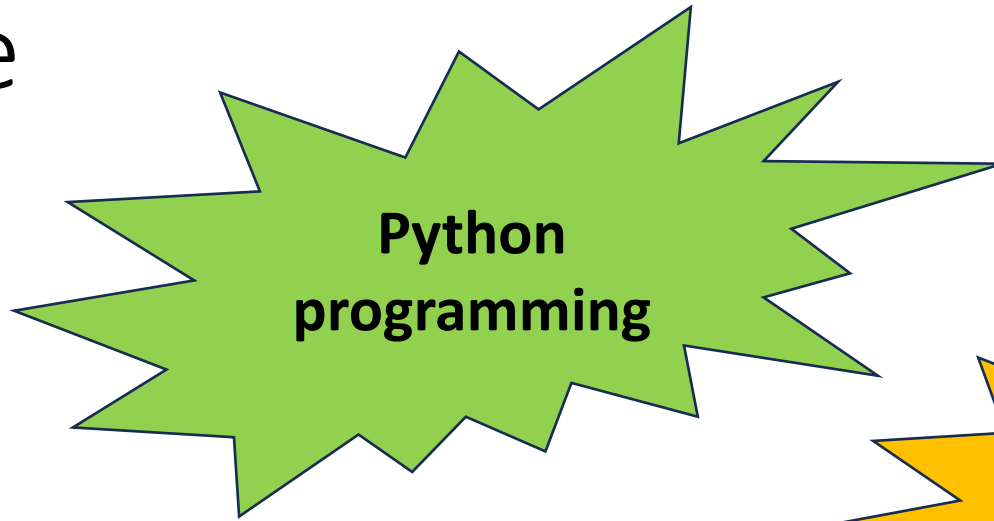**Email: jkwok@ust.hk**

Attendance Requirement

- Attendance at classes is **mandatory** for all courses.
- Students must notify the professor of the course and the HKUST MSBA Program Office **in advance** if they are unable to attend classes.
- Absent with any reason (e.g. sick leave with valid medical proof) will be treated as below:

Absent for	2-credit course (total 8 sessions)
1st time	Allowed (Program Office will issue warning email to students)
2nd time	Allowed (One-third grade reduction will be given)
3rd time	"W" (representing withdrawal from class) will be shown on transcript

- Professors have the discretion to execute a stricter attendance policy at course level.
- Classes will **start on time.**
- Full-time student who are **more than 15 mins late** will be considered **Absent from Class.** Part-time students will be given **30 mins** for the buffer time.
- Students who leave the class early without informing the course instructor and the MSBA Program Office will be considered **absent**.

HKUST BUSINESS SCHOOL 香港科大商學院 WORLD CLASS IN ASIA | MSc in Business Analytics

About this course

- Python
- Business Applications

Python programming

ChatGPT

Business requirements

User requirements

What this course is about

- Deep learning business applications
  - NLP
- Transfer Learning – Pre-trained models
  - Fine-tuned Models
- Python programming
  - Why Python for deep learning
    - Readability
    - Less complexity
    - Easy to understand the code
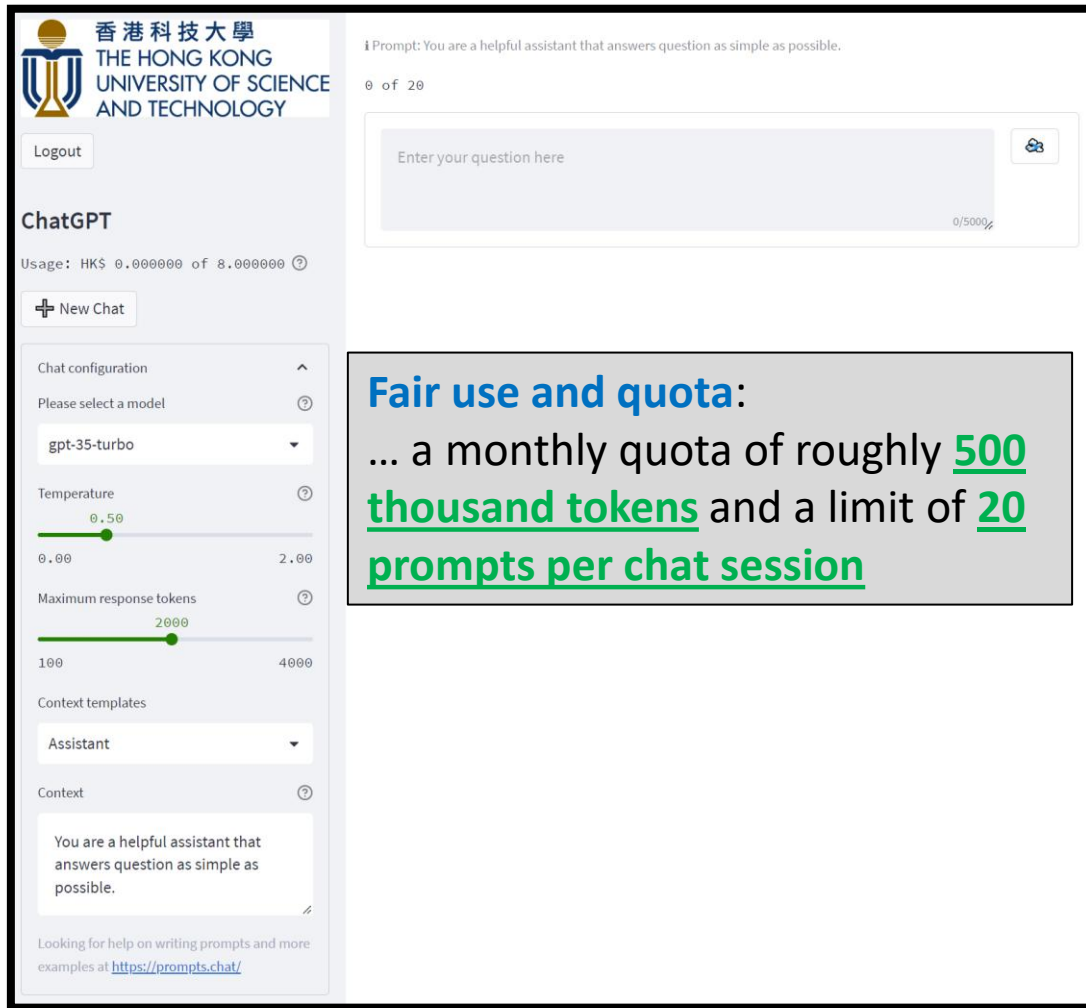
Who can benefit from the course?

- Those who want to develop deep learning business applications & models that can be used by other users who need not be familiar with the model

- Those who want to apply transfer leaning in business application development

- Those who want to develop deep learning business applications which make tasks easier for themselves

- Those who want to be aware of the power of Python programming

Important prerequisites for success

Get ready to get your hands dirty

- Learn by doing
  - One **CANNOT** benefit from the course by just **reading lecture materials**
- Learn by yourself (because you are programmer and developer)
  - Use google and other resources to learn from others
- Perseverance
  - **Time**
  - **Patience**
- Not scared of programming
  - New to programming: can work with a **partner**, and ask our **TA**

ChatGPT

香港科技大學
THE HONG KONG
UNIVERSITY OF SCIENCE
AND TECHNOLOGY

Logout

ChatGPT

Usage: HK$ 0.000000 of 8.000000 ⓘ

✚ New Chat

Chat configuration ⌃
Please select a model ⓘ

gpt-35-turbo ▾

Temperature ⓘ
0.50

0.00   2.00

Maximum response tokens ⓘ
2000

100   4000

Context templates

Assistant ▾

Context ⓘ

You are a helpful assistant that answers question as simple as possible.

Looking for help on writing prompts and more examples at https://prompts.chat/

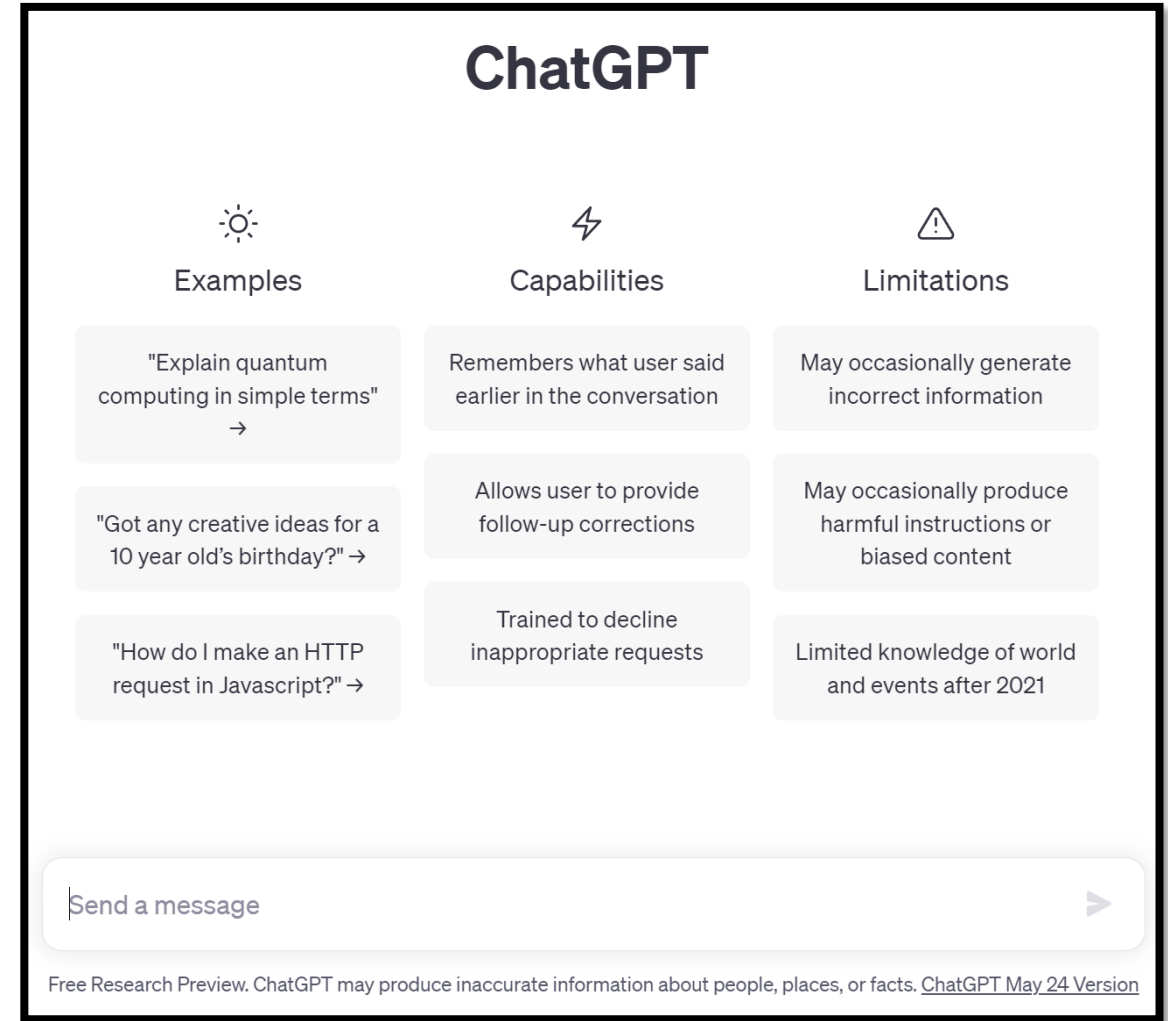ⓘ Prompt: You are a helpful assistant that answers question as simple as possible.

0 of 20

Enter your question here

0/5000

Fair use and quota:
… a monthly quota of roughly **500 thousand tokens** and a limit of **20 prompts per chat session**
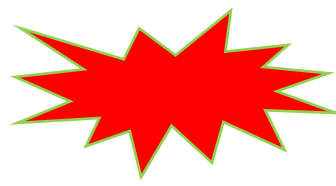
ChatGPT

☼
Examples

⚡
Capabilities

⚠
Limitations

"Explain quantum computing in simple terms" →

Remembers what user said earlier in the conversation

May occasionally generate incorrect information

"Got any creative ideas for a 10 year old's birthday?" →

Allows user to provide follow-up corrections

May occasionally produce harmful instructions or biased content

"How do I make an HTTP request in Javascript?" →

Trained to decline inappropriate requests
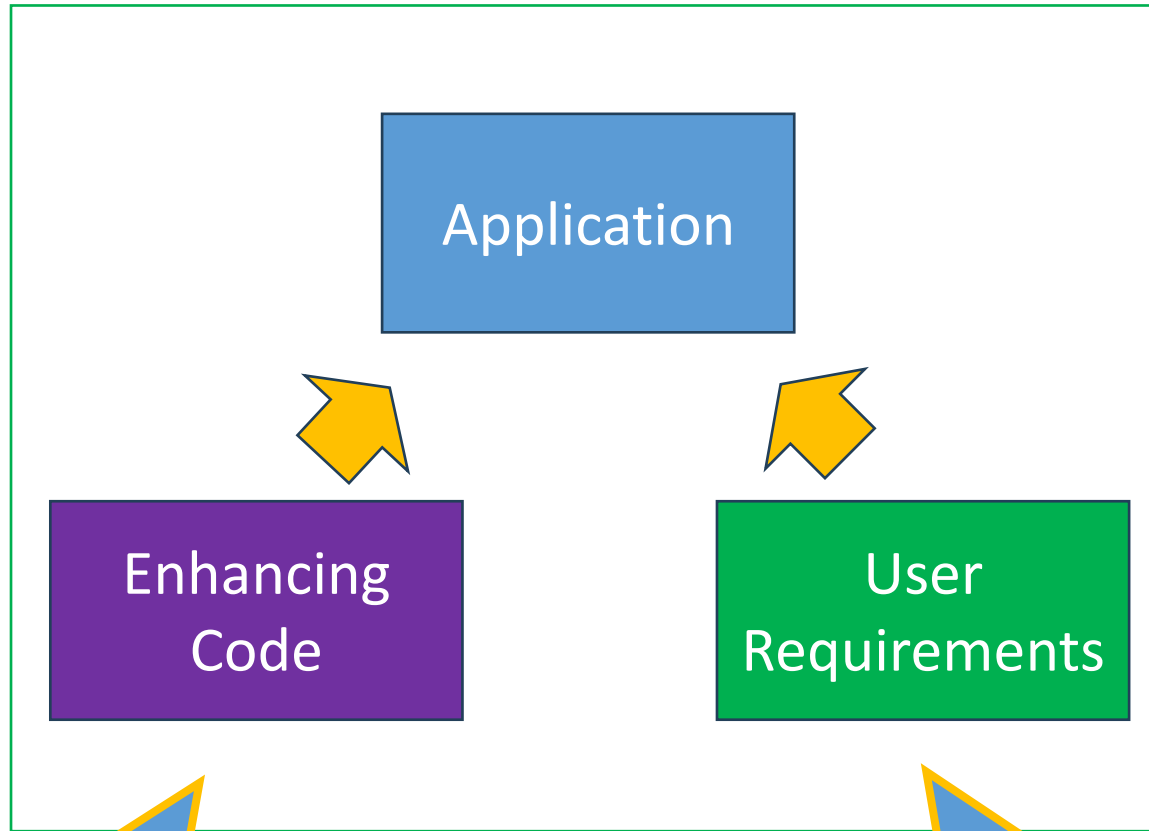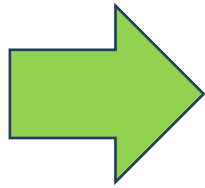
Limited knowledge of world and events after 2021

Send a message

Free Research Preview. ChatGPT may produce inaccurate information about people, places, or facts. ChatGPT May 24 Version

https://chatgpt.ust.hk/

https://chat.openai.com/

https://itsc.hkust.edu.hk/services/general-it-services/generative-ai-tools/help

Application Development in Python

"Skilled Developers No Need to Worry About ChatGPT"

"ChatGPT is Additional Asset to Developers; Not a Replacement"
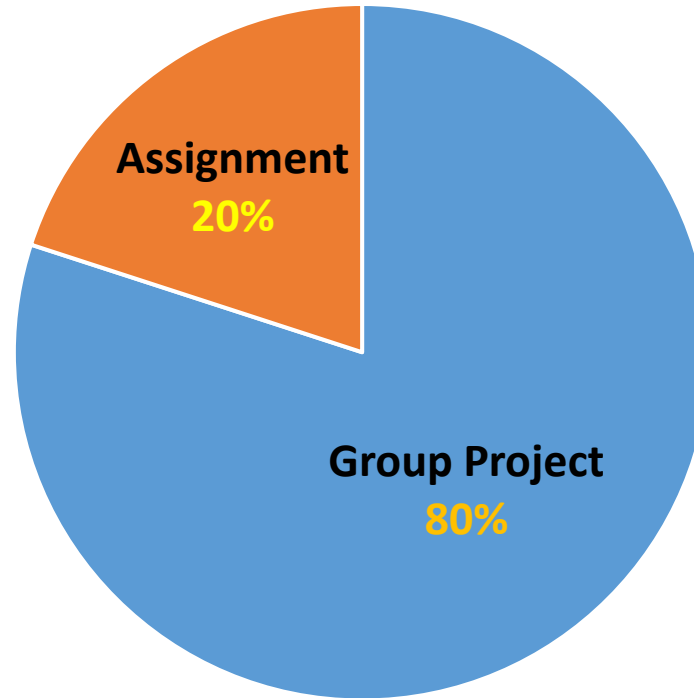
"ChatGPT Can't Handle Complex Tasks"

"Developers Still Needed for Quality Checking"

"No Tech is Proven to Replace Creativity"
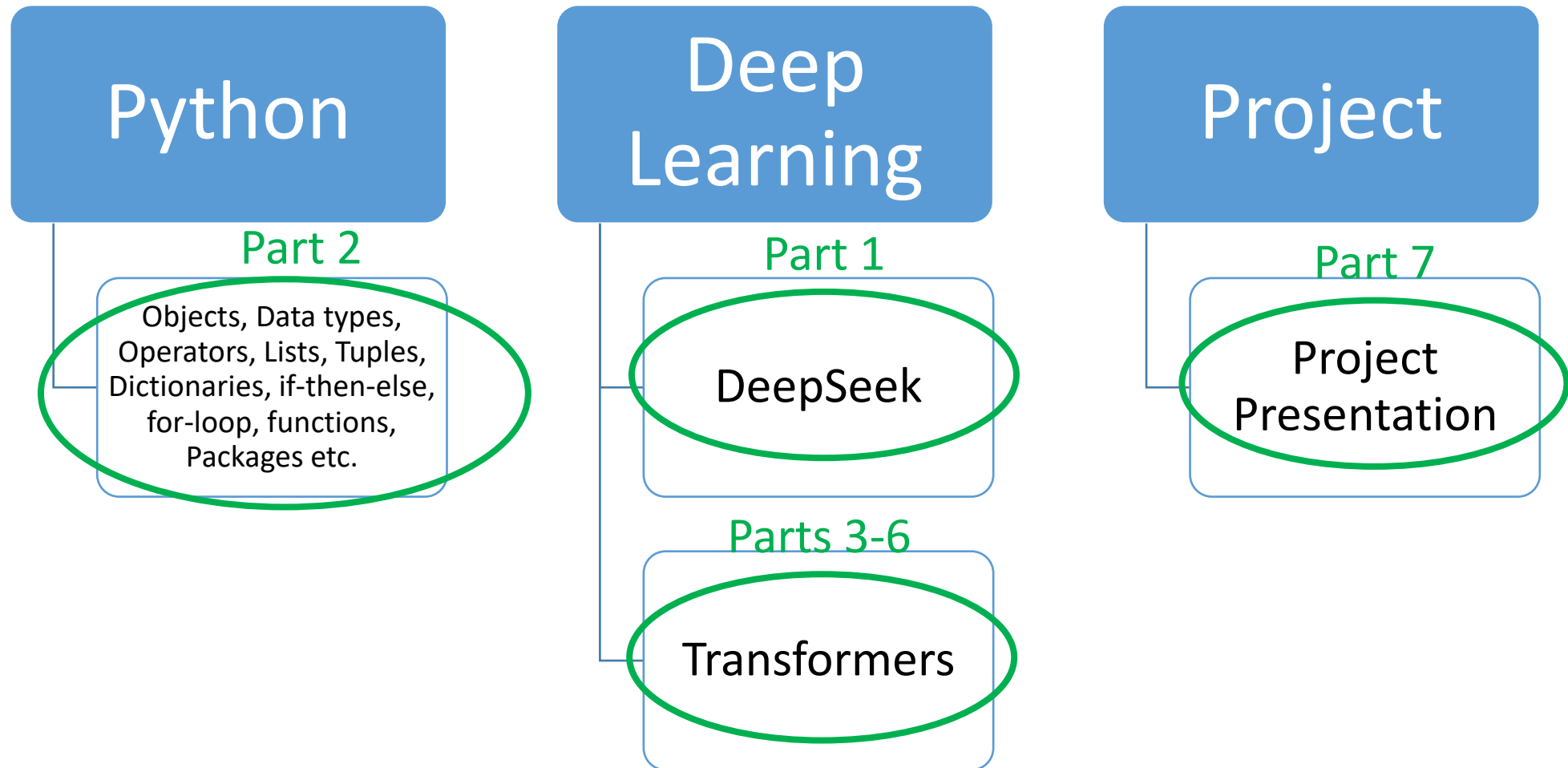
"AI Won't Steal Your Job; Person Using AI Will"

Grading

- You may work alone or in a group of two students for project.
- The submission deadline of lab assignment will be announced during class.
- The topic of project should be discussed with the instructor beforehand.

Course Plan – 7 parts in total

Python

Part 2

Objects, Data types, Operators, Lists, Tuples, Dictionaries, if-then-else, for-loop, functions, Packages etc.

Deep Learning

Part 1

DeepSeek

Parts 3-6

Transformers

Project

Part 7

Project Presentation

End