Free of charge to participate

2023 Sapporo AI Dojo Global Course
（Highly Skilled Foreign IT Engineers and students）

OPEN FOR FREE REGISTRATION !

Acquire practical AI skills through PBL
Shift from AI professionals "just with knowledge" to "with practical skills"

Target applicants	Highly skilled foreign IT engineers employed by companies in Sapporo or aiming to work for companies in Sapporo **You can participate from anywhere in Japan!** (residents of Japan only)
How to recruit	Public advertisement
Number of applications	Around 10
Training methods	・Online ・Expecting 90-minute sessions per day x 5 classes starting from November 2023 to January 2024. *Programming exercises are not done during class time, but as homework.
Criteria for selection	・Having a certain level of programming skills ・Having a certain level of knowledge about AI ・Being able to contribute to the project in good faith ※In addition to the above, selection will be strictly conducted by some experts, considering roles in the team. ※Japanese language skill to be considered.

Sapporo City offers such advanced services to build a preferable working environment for people coming from overseas.

The Process from Entry to Participation
The following schedule is tentative and subject to change.

AI Talent (Participants) → **Application Period** → **Selection** → **PBL Participation** (November 2023 – January 2024) → **Outcome Presentation Event** (February 2024)

Apply Here→ https://forms.gle/m3gLjTuAuxPX7op19

Details of Course

The detailed schedule will be provided.
Expecting 90-minute sessions per day x 5 classes starting from November 2023 to January 2024.
Classroom: Online

[Contents]
*Programming exercises are not done during class time, but as homework.

1. Objectives of this course and basic leaning about Python
- Explain what can be achieved in this course
- Understand AI (neural networks)
- Obtain an ability to use AI in business
- Develop skills to implement anomaly detection AI
- Learn about basics of Python

= Practice of Programming =
- Basics of Python
- Numpy
- matplotlib

2. About AI
- Neural Networks
- CNN
- Image Processing
- Semantic Segmentation

= Practice of Programming =
- OpenCV

3. Anomaly Detection
- Difference between image classification and object detection
- Difference between object detection and anomaly detection
- Typical Methods
    - Image Classification
    - Object detection
    - Abnormality detection

= Practice of Programming =
- scikit-learn
- Auto Encoder

4. Implementation of AI to Gyoza (dumpling) using Yolo
- Annotation
- VoTT
- Labellmg
- Explain Yolo (usefulness of Yolo using semantic segmentation)
- Implementation of AI to Gyoza using Yolo

= Practice of Programming =
- Implementation of Yolo
- Anomaly detection
- Programming for connection to IoT equipment

5. Summary of important points regarding AI tasks
- Creation of datasets required for operations
    - List of annotation tools (free)
    - List of annotation tools (charged)
- Licensing
    - Terminologies related to licensing
    - Summary of Licensing
- Summary