

Study on AI Applications for Medicine in Collaboration with Medical Science and Information Engineering (kindAI-Med)

(Prof Yuichi KIMURA, Ph.D., ukimura@waka.kindai.ac.jp)

Research Area

- We develop practical algorithms and systems for various fields of clinical medicine and basic medical sciences applying excellent capability in recognition.
- The keyword is collaborative works with medical science and information engineering.
- We can have adequate number of clinical data to train AI algorithms in Kindai and other extramural institutes.

現在進行中のプロジェクト

- ◆ AI for COVID-19 and pneumonia.
- ◆ AI-based synthesis algorithm to train AI for dementia.
- ◆ AI for mammography considering individual difference in the shape of mammary gland.
- ◆ AI to detect tumor lesion in the trunk considering metastasis.
- ◆ AI for middle ear disease using auriroscope images.
- ◆ AI for radiation therapy planning in real time.
- ◆ AI for hepatoma treatment with molecular target drug.
- ◆ We have plans discussing with some clinical divisions.

Recent Activities

- Yuichi Kimura, Aya Watanabe, Takahiro Yamada, Shogo Watanabe, Takashi Nagaoka, Mitsutaka Nemoto, Koichi Miyazaki, Kohei Hanaoka, Hayato Kaida, and Kazunari Ishii, "AI Approach of Cycle-Consistent Generative Adversarial Networks to Synthesize PET Images to Train Computer-Aided Diagnosis Algorithm for Dementia", Ann Nucl Med, 34, pp. 512–515, 2020.