SynthCT

Pitch: We're Generating Synthetic CT scans just from MRI Scans which cuts down time, cost, and patient exposure to radiation.

The existing medical system uses both medical imagining technology(MRI and CT) to assist health professionals in estimating the cross-section of internal organs. MRI provides a detailed imaging of human anatomy and CT provides granularity of internal organs. Multimodal information from the combination of both scans is efficiently used in the treatment planning of cancer patients. However, this workflow requires registration between CT and MRI to provide confident multimodal imaging which is used in treatment planning.

Usage of both MRI and CT is time-consuming and patients are exposed to a certain amount of radiation while the CT scans are imaged. Existing registration processes such as Atlas and Voxel-based approaches result in geometric uncertainty. All these can be avoided by usage of CycleGANs.

Our proposed system augments the treatment planning by generating sCT((Synthetic CT) scans from MRI that are harmless. This primarily helps in dose estimation as no registration process between sCT and MRI is required. Thus resulting in cutting down on cost, and time and importantly helping in the reduction of radiation exposure in patients. Thus, leaning toward a very efficient way to utilize the resources.