## **Multi-organ segmentation in adults and children using CT images**

It is well-known that organs in the adult stage are fully developed, while in children, they are still undergoing development, resulting in significant differences in size. Our research group aims to develop a fully automated algorithm by utilizing a dataset that encompasses samples from both pediatric and adult populations. The objective is to achieve accurate whole-body organ segmentation for different age groups. By training the model on a diverse dataset, we intend to enable it to effectively predict organ structures for both children and adults.

## Automatic segmentation of tumor GTV and CTV and direct calculation of radiotherapy dose using MRI and CT images

In the field of radiotherapy, the delineation of tumor target regions is typically performed manually by medical professionals.Subsequently, the radiation dose required for radiotherapy is calculated based on these annotations.To enhance anatomical clarity and minimize patient radiation exposure, MRI images are often registered and fused with CT images for radiotherapy planning. Thus, in our research group, we aim to develop a novel multi-modal fusion technique to automate the segmentation of the target area and facilitate radiation dose calculation. Ultimately, the integration of artificial intelligence (AI) approaches could enable the evaluation of patients' radiation therapy outcomes and prognosis.