Meeting - Week 3

Progress, Challenges & Next steps

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Questions? (1/3)

Should we train a separate model for each organ (e.g., liver, brain, prostate) to maximize specialization, or would a single model trained on all datasets generalize well across different organs? Alternatively, would pretraining on multiple organs and fine-tuning per organ be a better approach?

The LiTS preprocessing script resizes images to 320×320 and creates three-channel inputs using neighboring slices.

- Should we crop/resize our dataset to match this format, or can we keep the original resolution?
- How should we handle three-channel input if the number of slices is not a multiple of 3?
- Are there any strict formatting requirements we need to follow for U-Net 3+?

Questions? (2/3)

Handling 4D NIfTI Files in U-Net 3+

Some .nii files contain an extra dimension, making them 4D (e.g., 512×512×49×4).

- How should we handle the extra dimension? Should we select a specific channel, merge them, or treat them as separate inputs?
- If selecting a single channel, which one is most relevant for segmentation?
- Should we preprocess 4D files differently from standard 3D volumes?

How do we fairly compare this U-net 3+, with our multi-scaling approach if we need to crop images differently/more in U-net 3+, than our multi-scaling model approach, since then the different cropping seem to hold a big factor for the final score.

Questions? (3/3)