**[CS-8395 Spring 2020]**

**Deep Learning in Medical Image Computing**

**\* Please print and bring it before each class**

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Paper Title: Semi-supervised Learning for Segmentation Under Semantic Constraint

Please summarize the paper using your own words: (<100 words)

In this paper, the authors use a standard encoder-decoder architecture for segmentation, but add in an additional constraint for the anatomical structure of the part we are segmenting. The authors state that we are able to introduce this constraint because we know that the anatomical structure will remain constant across different samples. The authors enforce this through the loss function and demonstrate that their approach fares well on several datasets. The authors also explain that their method can be adopted for a semi-supervised approach on unlabeled data, since the anatomical structure is still enforced.

Question 1 for the paper: Why do the authors use over half of their data in the MICCAI experiment for testing?

Question 2 for the paper: How would different weights for the loss from the anatomical structure enforcement affect the results?