

Brain tissues segmentation using Conditional GAN with sure region

Tran Anh Tuan^a, João Manuel R. S. Tavares^b

^a *Faculty of Mathematics and Computer Science, University of Science, Vietnam National University, Ho Chi Minh City, Vietnam*

^b *Instituto de Ciência e Inovação em Engenharia Mecânica e Engenharia Industrial, Departamento de Engenharia Mecânica Faculdade de Engenharia, Universidade do Porto, Portugal*

Email: tatuan@hcmus.edu.vn & tavares@fe.up.pt

Main steps in the method for brain tissues segmentation

1. Using UNET for skull stripping
2. Using UNET for 8 tissues segmentation
3. Using Conditional GAN with sure region
 - a. Using UNET for prediction
 - b. Detecting sure region by using threshold $>$ default threshold (0.5)
 - c. Using conditional GAN with the sure region to generate images + labels.
4. Using UNET again for 8 tissues segmentation

